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*International Joint Commission  
" (U.S. and Canada) 1909 -*

(INTERNATIONAL JOINT COMMISSION)

IN THE MATTER OF  
THE APPLICATION OF THE ST. LAWRENCE  
RIVER POWER COMPANY

INTERIM ORDER, OPINIONS AND HEARINGS



OTTAWA  
J. DE LABROQUERIE TACHÉ  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1919

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13-8-19





## INTERNATIONAL JOINT COMMISSION.

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### UNITED STATES.

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R. B. GLENN.

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LAWRENCE J. BURPEE, *Secretary.*

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WHITEHEAD KLUTTZ, *Secretary.*



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INTERNATIONAL JOINT COMMISSION

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IN THE MATTER OF  
THE APPLICATION OF THE ST. LAWRENCE  
RIVER POWER COMPANY

FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE  
OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF  
THE ST. LAWRENCE RIVER NEAR THE MOUTH  
OF ITS POWER CANAL AT MASSENA,  
NEW YORK.

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INTERIM ORDER AND OPINION

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OTTAWA  
J. DE LABROQUERIE TACHÉ  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1918





## INTERNATIONAL JOINT COMMISSION

### IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER NEAR THE MOUTH OF ITS POWER CANAL AT MASSENA, NEW YORK.

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#### INTERIM ORDER.

Whereas, by its application dated July 25, 1918, as subsequently amended with the permission of the Commission, the St. Lawrence River Power Company, a corporation organized under the laws of the state of New York, having its principal office at Massena, New York, applied to this Commission for its approval of the construction and maintenance of a submerged weir in the St. Lawrence river extending from the existing jetty of the said company below the intake of its power canal to Long Sault island in said river and being wholly within the territory of the United States, which construction has been authorized by the United States and approved by a permit of the Secretary of War bearing number 38786/64, dated September 10, 1917, and attached to said application, which said permit contains, among others, the following provisions:—

“That if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of War, it shall cause unreasonable obstruction to the free navigation of said water, the permittee will be required, upon due notice from the Secretary of War, to remove or alter the structural work or obstructions caused thereby without expense to the United States so as to render navigation reasonably free, easy and unobstructed; and if, upon the expiration or revocation of this permit, the structure, fill, excavation or other modification of the watercourse hereby authorized shall not be completed, the permittee, at his own expense, and to such extent and in such time and manner as the Secretary of War may require, shall remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the watercourse. No claim shall be made against the United States on account of any such removal or alteration;” and

Whereas, said application was first presented to the Commission at its session at Atlantic City, New Jersey, on August 12, 1918, whereupon coun-

sel appearing for and on behalf of the United States applied for an immediate hearing on said application, representing, as was also alleged by the applicant, that the said St. Lawrence River Power Company is a subsidiary of the Aluminum Company of America; that the applicant company had for many years developed hydro-electric power in its power house at Massena, N.Y., using water for that purpose taken from the South channel of the St. Lawrence river immediately below Dodges shoal via its power canal and Grasse river near Cornwall island; that the hydro-electric power thus produced is used mainly in the production of aluminum by the said Aluminum Company of America; that the demand on this company to supply aluminum is most urgent and insistent, and practically their entire output is being taken by the United States and Allied Governments for military purposes in the prosecution of the present war; that during the months of January, February, March and part of April in each year huge ice jams in the said South channel cause practically a shutdown of the said plant and an annual reduction in the output amounting to over six million pounds, and that these serious ice difficulties can be remedied by the construction of the said submerged weir, and counsel for the United States Government therefore applied to the Commission for an order for the suspension of its Rules of Procedure so as to permit of the immediate hearing of the said application and in support of said motion submitted letters from the Chairman of the War Industries Board of the United States and the Acting Director of Aircraft Production urgently praying for favourable consideration and approval of the application herein, and

Whereas, by its order dated at Atlantic City, August 13, 1918, the Commission suspended rules 9, 10, 11, 12 and 13 of its Rules of Procedure and ordered that a hearing on said application be fixed for the 29th day of August, 1918, at 10 a.m. of that day in the city of Montreal, Que., and

Whereas, at the time and place agreed upon the hearing having taken place, the commission at the conclusion of the evidence of the applicant, heard counsel on its behalf, as well as counsel on behalf of the United States, the Dominion of Canada, the province of Ontario, and the state of New York, and also on behalf of several private and corporate interests, no testimony having been presented by either Government or by any interest in opposition to said application, and

Whereas, at the said hearing at Montreal counsel for the United States presented to the Commission a letter from the Secretary of War of the United States to the Commission, requesting in order to meet the urgent necessity for the increased production of aluminum for the prosecution of the present war, that the permit he had granted to the applicant receive the approval of the Commission, and

Whereas, the Dominion of Canada by its Statement in Response and also at the said hearing denied the jurisdiction of the Commission to entertain and grant the said application, alleging that under Article VII of the Webster-Ashburton Treaty of August 9, 1842, it is stipulated that the channels in the river St. Lawrence on both sides of Long Sault island and Barnhart island shall be equally free and open to ships, vessels and boats of both parties, and also that by the Treaty of January 11, 1909, between Great Britain and the United States it was agreed that the navigation of all navigable boundary waters shall for ever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels and boats of both countries, and

Whereas, the Commission at Montreal, on the 31st August, having duly considered the said application and the evidence offered in support thereof, and the said exception to its jurisdiction, adjourned its sitting to the 12th day of September at the city of New York, when it continued the consideration thereof on the said and following days, and

Whereas, the Commission is of opinion that the said submerged weir would be an obstruction in a boundary water on the United States side of the boundary line which would alter the level on the Canadian side thereof, and therefore the Commission has, under Articles III and VIII of the Treaty of 1909, full jurisdiction and authority to pass upon the said application, and

Whereas, the Commission is of the opinion that in order to arrive at a final decision further evidence should be taken and further argument submitted, especially with regard to the effect of Article VII of the Webster-Ashburton Treaty in so far as it may or may not constitute a bar to the construction of the said weir, and with regard to the question of whether said article has been superseded by the Treaty of January 11, 1909, and

Whereas, the war necessities of the Allied Governments imperatively demand that the production of aluminum at the applicant's plant at Massena be increased as much as possible during the winter months, and

Whereas, it further appears that the construction of the said submerged weir must be immediately commenced and be completed by the 15th day of December next in order that the production of aluminum for the present year may be increased;

Therefore, without at the present time finally deciding the question whether the Commission should approve the construction and permanent maintenance of the said weir, and without prejudice in any way to its right to decide such question hereafter, and in view of the pressing necessity for the immediate increase for war purposes of the available supply of aluminum, and at the urgent request of the United States.

*It is hereby ordered*, as an interim measure, that the construction of the said weir and its maintenance until the expiration of the term of five years from the date hereof, or until the termination of the present war, is hereby approved upon the following conditions:—

(1) That at the expiration of said period of five years, or upon the termination of the present war, whichever shall last occur, said weir shall be removed by the applicant; reserving, however, to the applicant or any other interested party the right to apply to the Commission at least one year before the expiration of the said period for a further continuance of the said weir, and on such application the Commission may approve of such continuance on such terms and conditions as it may deem appropriate and equitable for the protection of the rights and interests of the people on either side of the line in accordance with Article VIII of the Treaty of 1909.

(2) That the said weir shall be constructed and maintained in accordance with the plans mentioned and under all the terms and conditions set forth in the paragraphs numbered from 1 to 11, both inclusive, in the permit therefor granted by the Secretary of War dated September 10, 1917, so far as same are applicable.

(3) That for the purpose of protecting the rights, property and interests on either side of the boundary from any injurious effect resulting from the construction and maintenance of said weir the Commission will, during the term of its approval herein, retain jurisdiction over the subject matter of said application, and may make such further order or orders in the premises as may be necessary.

Provided, that in making the foregoing order the Commission shall not be deemed to have considered nor passed upon any question pertaining to the right of the applicant to divert water from the St. Lawrence river.

DATED at New York, N.Y., September 14, 1918.

C. A. MAGRATH.

O. GARDNER.

HENRY A. POWELL.

JAMES A. TAWNEY.

P. B. MIGNAULT.

R. B. GLENN.



## INTERNATIONAL JOINT COMMISSION.

**IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER NEAR THE MOUTH OF ITS POWER CANAL AT MASSENA, NEW YORK.**

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### OPINION.

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This is an application by the St. Lawrence River Power Company, a corporation organized under the laws of the state of New York, having its principal office at Massena, New York, for the approval by this Commission of a submerged weir to be constructed in the south channel of the St. Lawrence river from the existing jetty of the company, below the intake of its power canal, to Long Sault island.

### THE APPLICATION.

In its application the company alleges in substance that it is a subsidiary of the Aluminum Company of America, and has for many years developed hydro-electric power in its power house at Massena, using water taken from the south channel of the St. Lawrence river immediately below Dodges shoal, via its power canal and Grasse river, through which the water is returned to the St. Lawrence river near Cornwall island; that this hydro-electric power is used mainly in the production of aluminum by the said Aluminum Company of America; that the demand on this company to supply aluminum is most urgent and insistent and practically the entire output is being taken by the United States and allied Governments for military purposes in the prosecution of the present war; that aluminum is smelted by electricity generated by water power, and the Massena plant of the Aluminum Company of America has a capacity of 85,000 horse-power generated from the water of the St. Lawrence river, but during the months of January, February, March and part of April in each year huge ice jams in the south channel cause practically a shut-down of the said plant and an actual reduction of the output amounting to over six million pounds, and that these serious ice difficulties can be remedied by the construction of the weir; that the company applied to the Secretary of War

of the United States for permission to extend to Long Sault island by means of a submerged weir its jetty or deflecting dyke in the south channel, which permission was granted subject to the approval of the Commission, by permit dated September 10, 1917; that the jetty, the site of the proposed submerged weir, the south channel, Dodges shoal, the rapids, the power canal, power-house, Grasse river, and all the waterways constituting the power developments are within the United States and are all separated from the international boundary by Long Sault island, which is also a part of the United States; that the effect of the proposed improvement in conjunction with the existing development will be to improve winter conditions, increase the output of aluminum, maintain public service and establish navigation to the town of Massena, without making diversion of water materially different from what it has been in the past and without materially affecting the level of the boundary waters on the Canadian side of the St. Lawrence river; and the applicant therefore prayed that the Commission approve of the construction of the said submerged weir.

#### REQUEST FOR A PROMPT HEARING.

This application was first presented to the Commission at Atlantic City, N.J., on August 12, 1918, having been filed in the offices of the Commission a few days previously, and Mr. George W. Koonce, of counsel for the United States, applied to the Commission, at the instance of the Government of that country, for an immediate hearing of the application, representing that aluminum is urgently required by the United States Government and all the allied Governments for the prosecution of the present war, being used in the construction of aeroplanes, motor trucks, mess utensils, camp outfits; that owing to ice troubles last winter at Massena, the output of the company was cut down to 28 per cent in January, and to 11 per cent in February, of the normal production, and that the proposed submerged weir is designed to correct these ice troubles and to allow the production of aluminum to be maintained at the highest efficiency during the winter months. He added that the company furnishes 60 per cent of the aluminum used by Great Britain in the present war, 33 $\frac{1}{3}$  per cent of that utilized by France, and 75 per cent of that used by Italy, and that the United States Government gets its whole supply from the company. In support of his application for an immediate hearing, he produced letters from Mr. B. M. Baruch, Chairman of the War Industries Board, and from Mr. M. W. Kellogg, Acting Director of Aircraft Production, urgently requesting a speedy and favourable consideration of the application of the St. Lawrence River Power Company. These letters are printed in the appendix to this opinion.

Mr. Frank H. Keefer, of counsel for the Dominion of Canada, was present when Mr. Koonce applied for this hearing, but he stated that he was not authorized to give his assent thereto.

The Commission did not grant an immediate hearing to the applicant company, but it considered that the urgency of the occasion called for a suspension of its Rules of Procedure so as to expedite as much as possible the hearing of the application, and, by its order bearing date August 13, it ordered that the hearing be held on the 29th day of August, at 10 a.m., at Montreal, Que., and that all statements in response to the application be filed on or before the 26th day of August.

#### THE HEARING.

The hearing took place at Montreal, as arranged, on August 29 and 30, and the following appearances were announced:—

- Mr. George B. Gordon, Pittsburg, representing the applicant;
- Mr. Leighton McCarthy, K.C., Toronto, representing the applicant;
- Mr. George W. Koonce, Washington, representing the United States Government;
- Mr. John C. Churchill, Washington, representing the Corps of Engineers, United States Army;
- Hon. Hugh Guthrie, Ottawa, Solicitor General for the Dominion of Canada;
- Mr. Frank H. Keefer, K.C., M.P., Ottawa, representing the Dominion of Canada;
- Mr. William J. Stewart, Ottawa, Chief Hydrographer of the Dominion of Canada;
- Mr. S. J. Chapleau, Ottawa, representing the Department of Public Works of Canada;
- Mr. James White, Ottawa, representing the Commission of Conservation of Canada;
- Mr. Arthur V. White, Consulting Engineer of the Commission of Conservation of Canada;
- Mr. George H. Kilmer, K.C., Toronto, representing the Province of Ontario;
- Mr. H. G. Acres, Toronto, representing the Hydro-Electric Power Commission of Ontario;
- Mr. Marshall McLean, New York, special Deputy Attorney-General of the State of New York;
- Mr. A. H. Perkins, Division Engineer of the Conservation Commission of the State of New York;
- Mr. Francis King, K.C., Kingston, Ont., representing the Dominion Marine Association;
- Mr. F. E. Meredith, K.C., Montreal, representing the Montreal Harbour Commissioners;
- Mr. John Baillie, Montreal, representing the Montreal Board of Trade.

## STATEMENT IN RESPONSE TO THE APPLICATION.

Formal statements in response were filed by most of the Governments (other than the United States Government, on behalf of which Mr. Koonce asked that the application be granted) and interests represented.

The position taken by the Government of the Dominion of Canada, as well by its statement in response as by the argument of counsel on its behalf, may be briefly summarized by stating that it denied the jurisdiction of the Commission to grant the application, on the ground that the proposed submerged weir would entirely close to navigation the south channel of the St. Lawrence river at the Long Sault, and that by Article VII of the Webster-Ashburton Treaty of 1842, it was agreed that this channel "shall be equally free and open to the ships, vessels and boats of both parties," and also that by Article I of the Treaty of January 11, 1909 (hereafter called the Waterways Treaty) it was stipulated that "the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels and boats of both countries equally." It is proper to add that counsel for Canada stated that the government of that country was ready to take up with the government of the United States the question of increasing for war purposes the supply of aluminum.

A great number of questions were raised by the statements in response filed by other interests, the main points submitted, which were also emphasized by the representatives of Canada, being the necessity of preserving the navigation of the south channel and the inadvisability of allowing a private corporation to make therein a power development that might prove detrimental should a larger scheme of development be adopted by the two countries. It should be added that the statement in response filed by the State of New York opposed the application on the ground that the construction of the submerged weir would be an invasion of the rights of the citizens of that State in and to the navigable waters of the St. Lawrence river, and that it would necessitate the taking of a portion of the bed of the river belonging to the State.

At the hearing, evidence was offered on behalf of the applicant company as to all the pertinent facts it had alleged. No testimony whatsoever was adduced by any of the governments or interests opposing the application, their counsel having merely cross-examined the applicant's witnesses. It may be that it was considered that no further testimony was required for their purposes, but the Commission cannot but feel that the course thus pursued by those opposing the application has not aided in the discharge of the important duty imposed on the Commission by the Treaty, in the very urgent and entirely exceptional emergency under which it was obliged to discharge this duty.



Before referring to the facts established at the hearing, it will be useful to briefly describe the locality where the weir is proposed to be constructed, and also to mention the different permits obtained by the applicant from the Secretary of War of the United States.

#### DESCRIPTION OF LOCALITY.

There are in the St. Lawrence river at this point, four islands, Croil island, Long Sault island, Barnhart island, and Sheek island. The first three were placed in the United States and the fourth in Canada by the award, dated the 18th June, 1822, rendered by the commissioners appointed under Article VI of the Treaty of Ghent. On both sides of these islands are the rapids known as the Long Sault, and the international boundary runs along the main channel of the St. Lawrence river north of Croil island and of Long Sault island, and along the channel separating Sheek island from Barnhart island, locally known as the Little river. This latter channel carries however only five per cent of the water of the whole river, while the rest of the water flows south of Barnhart island, so that the main channel of the St. Lawrence river at this point is entirely in United States territory. Between Croil island and Long Sault island is a passage in which there is a small island called Delaney island, the water passage bearing the name of Little Sny and Big Sny, and the current flows north through the Big Sny towards the north channel of the river. Four-fifths of the water of the St. Lawrence river flows north of Long Sault island in the main or north channel, and one-fifth south of Long Sault island in what is known as the South Sault channel, and it is here that the proposed weir is to be built, a short distance to the east of the intake of the power canal of the applicant. This power canal was excavated several years before the Waterways Treaty was made, and runs in a southeasterly direction to the power-house at Massena, some three miles from the intake, where it discharges into the Grasse river, which thus forms the tail race, and through this river the diverted water flows easterly to the St. Lawrence river near Cornwall island. On the north side of the St. Lawrence river is the Cornwall canal, the intake of which is at lock 21, north of Long Sault island, and further down stream than the intake of the power canal of the applicant on the south shore. The applicant has a jetty, to the east of the inlet of its power canal, which was built in the South Sault channel under a permit obtained in 1903 from the United States Government, and it is proposed to extend this jetty to Long Sault island by means of the submerged weir. It may be added that the power canal has a depth of thirty feet and the Grasse river below the power-house has been dredged to a depth of sixteen feet.

## PERMITS OBTAINED BY THE APPLICANT FROM THE UNITED STATES GOVERNMENT.

The applicant, it appears, made one application to the Secretary of War of the United States covering three things:—

1. The dredging of the South Sault channel to a width of 150 feet and a depth of 20 feet at Dodges shoal, which is about 4,000 feet above the intake of the power canal;

2. The construction of a removable ice boom supported by permanent stone filled timber cribs between Delaney island and Talcott's point on the south shore of the river at Dodges shoal, with a wing dam extending from the main shore above Talcott's point to the upstream margin of the dredged channel for the purpose of directing the flow of water and ice across four ice diverting channels which will connect deep water with the channel to be dredged;

3. The construction of the submerged weir.

These three things really formed but one proposition, the object of which was to remedy the ice troubles, but the War Department engineers, Mr. Koonce says, decided to separate them. Consequently two permits were granted by the Secretary of War, one dated September 10, 1917, covering the dredging of the channel at Dodges shoal and the construction of the ice boom (filed as Exhibit 10), and the other, also dated September 10, 1917, authorizing, subject to the approval of the International Joint Commission, the construction of the submerged weir. A copy of the latter permit was attached to the application by the Commission and another copy was filed at the hearing as Exhibit 7. Subsequently, the applicant having modified its plans as to the construction of the ice boom and the dredging, it obtained from the Secretary of War another permit, dated April 20, 1918, and filed as Exhibit 9, under which the construction work will be carried out.

It is to be remarked, however, that the dredging of Dodges shoal is now practically completed, as it was the first work started. The piers and ice boom will be put in only if the construction of the submerged weir is authorized, so that when the matter was submitted to the Commission, an important part of the work originally considered by the applicant as constituting part of one project, had been completed.

Considering merely the dredging of a channel 150 feet wide and 20 feet in depth at Dodges shoal, that is to say the work completed under the permit of April 20, 1918, there is no room for doubt that this dredging would affect the natural level and flow of the St. Lawrence river on both sides of the international boundary, which by the terms of Article III of the Treaty is prohibited except when authorized by special agreement between the High Contracting Parties, or first approved by the Commission.

Mr. James W. Rickey, chief hydraulic engineer of the Aluminum Company of America, in his evidence before the Commission, admitted that this dredging, without the compensating influence of the submerged weir, would affect the level on the north shore by possibly a couple of inches.

Mr. Koonce, when he came before the Commission at Atlantic City, said that the engineers of the War Department had satisfied themselves that the only part of the work which should be submitted for the approval of the Commission was the submerged weir, and they thought that the dredging at Dodges shoal and the construction of the piers for the ice boom would not affect the levels on the north shore so as to require the approval of the Commission under Article III of the Waterways Treaty. It is obvious, in view of the evidence, that this conclusion was erroneous, and the Commission is of the opinion that the whole of the work, and not merely the part concerning the submerged weir, should have been submitted for the approval of the Commission, as required by Article III of the Treaty. Whether or not the effect on levels of the dredging would be compensated by the construction of the submerged weir—and the approval of the Commission is necessary when merely the flow of boundary waters is affected, even supposing their level remains the same—it certainly seems strange that only the compensating work, and not the dredging requiring this compensation, should have formed the subject of the application to the Commission. Under normal conditions and under the evidence submitted—without the stress of the emergency which confronted the Commission when application was made to it to issue an order of approval, which had to be issued at once to be of any use for the coming winter—it would have been the duty of the Commission under the Treaty to consider the whole work as one project, and to have required the application to be amended accordingly. The attention of the applicant was several times during the hearing called to the requirements of Article III of the Treaty with respect to this dredging, and the Commission is of the opinion, in view of the prohibition of this article, that unless some action be taken by the applicant to meet these requirements, the dredging work cannot be considered to have been done lawfully or in accordance with this provision of the Waterways Treaty, because it admittedly affects the “level” and “flow” of boundary waters.

It may perhaps be further remarked that those in authority in either of the countries should not lightly take upon themselves the responsibility of determining whether a proposed use, obstruction or diversion of boundary waters will or will not affect the level or flow of such waters on the other side. The High Contracting Parties, in the absence of a special agreement between them in respect thereto, have created a tribunal before which, all such questions should be brought, and it would not be conducive to that spirit of fairness and of mutual co-operation with which the Treaty



should be carried out, for one side to determine in an ex parte manner, and without reference to the other side, questions involving the use, obstruction or diversion of these boundary waters now prohibited by the Treaty except as therein provided.

#### EVIDENCE SUBMITTED AT THE HEARING IN MONTREAL.

As stated above the only testimony submitted was that of witnesses examined by the applicant. A very brief summary of this testimony will be sufficient, because as stated by Hon. Mr. Guthrie, there was not much between the parties upon the facts.

In the first place there is no doubt that the construction of the weir, if it be permanently maintained, will close to navigation the South Sault channel unless some alternative route be available. As to its effect on levels in the north channel, the following excerpt from Mr. Rickey's testimony is sufficiently explicit:—

"We will consider three stages of flow in the St. Lawrence river. We will first take the minimum stage, about 200,000 second feet. The effect of the submerged weir will be to prevent a large proportion of the water that would otherwise flow down the South Sault channel from passing through that channel and divert that water through the Big Sny channel into the main channel on the north side of Long Sault island. This statement assumes that the same quantity of water is drawn through the Massena power canal. When analysing the elevations of the water at the weir for the stage of 200,000 second feet, we find that the water level at lock 21 will be raised about 3 or 4 inches, which is an improvement to navigation, because every inch of increased draft there is an assistance to navigation and particularly at low water periods of the year when in times past boats have had to lighten their draft in order to pass over the upper sill of lock 21. . . .

"The average stage of the St. Lawrence is about 250,000 second feet. At such stage the water level at lock 21 will be similarly raised, but it is of no benefit to navigation because you already have some fifteen and a half or sixteen feet depth of water over the sill, but it is no detriment because it is at a little greater elevation and will allow boats to enter the locks somewhat more freely than they otherwise would.

"If now we pass on to the maximum stage of water in the river, we find that the rise at lock 21 is again substantially four inches. . . . Analysing the river levels under these conditions, we then find that the coping of lock 21 will be about a foot and a half higher than the water level, so there is no danger of the water flooding the coping of the lock. Now having analyzed the low water conditions where we find an improvement, the average water stage where there is no detriment, and possibly just a little easier entrance to the lock, and the flood water stage where there is no damage done to the lock, it is my opinion that these works will be an improvement to navigation."



There is another effect of the construction of the submerged weir, and that is the raising of the level of the water in the power canal. As to this point Mr. Rickey says:—

“At an average stage of 230,000 second feet, with the canal discharging about 28,000 to 29,000 second feet, which is the quantity of water used when we are developing 89,000 horse-power, the water level without the submerged weir will be substantially at elevation 198. . . . After the submerged weir is built the water level under the same conditions will be elevation 202.5. The rise at the inlet to the canal will, therefore, be 4.5 feet.”

Further on he adds:—

“The Massena power-house is very well equipped with turbines and generators to determine the amount of water that we can apply to the coupling between the turbine and generator shaft, because if we put any more power on we will burn up the generators. In fact, we did that the other day. There was a slight accident, and it will take a few days to make the repairs. After the submerged weir is built the level at the inlet to the canal will be 202.5, and the level at the power-house in the fore-bay will be elevation 201; whereas, under present conditions, the level would be 195. Consequently, there will be 6 feet additional head at the Massena power house. Now since we have 6 feet greater head and are developing the same power, we will use correspondingly less water. So water that is now being diverted to Grasse river through the Massena power canal will be correspondingly diverted to the Big Sny and help raise the level at lock 21, particularly under low water conditions. The head at the power house will be increased about 6 feet. We now develop a maximum of 86,000 horse-power. If we increase the head, that reduces the quantity of water, because the higher the head the less quantity of water required.”

On cross examination, Mr. Rickey stated that the present head is in the neighborhood of 35 feet, and admitted that with the additional head of 6 feet, 16,000 more horse-power could be obtained, provided, of course, more turbines were added.

It may be observed that the application does not call for, nor does the order of the Commission grant, any approval whatever of diversion of water from the St. Lawrence river through the power canal of the applicant. This is clearly shown by the final paragraph of the order. If the applicant has no right to divert water from the St. Lawrence river—and no evidence was made of any protest against the diversion which it has been making since a number of years, for the power canal was constructed and was in operation long before the Waterways Treaty—the order of the Commission gives it no such right. It will therefore be open to the state of New York or to any other interest to question this diversion. Under the order of approval adopted, no vested rights of diversion will be acquired by the applicant and no existing right to object to this diversion—if such right exists to-day—will be prejudicially affected.

## ICE CONDITIONS IN THE SOUTH SAULT CHANNEL.

In his evidence Mr. Rickey fully explained what are the ice conditions in the South Sault channel at the present time. About the end of December, to use as much as possible his own language, ice jams start to form in the vicinity of Cornwall island and build up both channels. In severe winters these ice jams will continue following up the South Sault channel. In addition there is a different set of ice jams that are formed by ice coming down the main channel of the St. Lawrence river which divides into two parts, some of which will go between the northwesterly end of Croil island and the main shore through what is known as Farrans Point channel. The remainder of the ice goes through the main channel on the south side of Croil island. It there splits. Part of the ice will go down the Big Sny and into the main channel north of Long Sault island. The remainder will go down the South Sault channel on the south side of Long Sault island. When a strong northwesterly wind is blowing, substantially all of the ice of the river will be blown into the channel south of Croil island, and in such cases a very large part of the ice will be diverted into the South Sault channel near Peppermill point, about one mile east of the intake of the power canal. Immediately below that point the channel widens out and is deep and the current slow. The ice is therefore not carried off as fast as it is brought into the channel and the ice jams begin to form in the vicinity of Peppermill point.

The way in which the proposed weir in connection with the dredging above will remedy these ice troubles was explained in detail by Mr. Rickey and by Mr. B. F. Groat, a hydraulic engineer of the Aluminum Company. Certain channels have been dredged out in the bed of the river and the wing dam, mentioned in the permit above described, will throw the surface currents across these channels, while the bottom of the channels will carry the water down that dredged channel underneath the surface currents so that it will be comparatively free of ice. The surface currents with the ice go down the Big Sny, and the subcurrents continue free from ice down the South Sault channel. The object of the submerged weir, says Mr. Groat, is to raise the level of the water at the intake of the power canal and reduce the slope passed down over the shoals, so that there will not be such a strong draft under and across the boom tending to sweep the ice under it. The pool of water below the boom and extending down to the crest of the submerged weir will freeze over, and the water will flow under the ice and into the mouth of the canal.

There was no attempt to contradict the statements of Messrs. Rickey and Groat, and in a case of this importance, with new problems of engineering under discussion, one would have thought that engineers would have been called on to testify by the opposing interests. The only sug-

gestion made was that Mr. Rickey himself several years ago had stated that it would be entirely practicable, with properly equipped gangs of men, to keep the South Sault channel open in winter. But Mr. Rickey replied that when he made this statement he had only three year's experience, and that his much longer experience to-day led him to change his mind. If any other means of dealing with the ice troubles than the construction of the submerged weir is available to the applicant, the opposing interests would no doubt have introduced testimony to show that another remedy could be adopted. The same remark seems to dispose of the contention made in some of the Statements in Response, that the applicant could procure electrical energy elsewhere to make up for the winter shortage of power. No evidence of the availability of this power was made, Mr. Davis, President of the Aluminum Company, testified that it was not available, and the Commission is left with the testimony all on one side, and can only resort to this testimony to decide the points in issue between the parties.

Also, with regard to the effect of ice troubles on the production of aluminum during the winter months, and the possibility of increasing the output by at least 6,000,000 pounds if the weir is put in, there is no contradiction of the sworn testimony adduced by the applicant. The Commission therefore must accept these important factors as being conclusively established by the evidence submitted at the hearing.

There is just another point on which the witnesses produced by the applicant were uncontradicted, and that is with respect to the navigability of the South Sault channel. From the statements of several witnesses, it appears that up to approximately ten years ago there was some navigation on the South Sault channel, but that to-day, except for an occasional motor boat, this channel is not used for navigation purposes, certainly not for the transportation of freight. It cannot, however, be said that the South Sault channel is unnavigable, but it is so little navigated under present conditions that, apart from the question whether Canada can insist on its remaining open as a matter of absolute right, its value is much greater for the development of power than for navigation purposes. The evidence adduced does not permit the Commission to determine what effect this development may have on a larger scheme of development of the whole river, at the Long Sault. Fortunately, under the form of order adopted, these questions remain open and can be determined at a later date and with a better knowledge of all the conditions.

There remains the consideration of the very important legal questions discussed by the eminent counsel who appeared for the different interests.



## JURISDICTION OF THE COMMISSION.

The question should be dealt with immediately for if the Commission be without jurisdiction it is without power to adjudicate on the application under consideration.

The Dominion of Canada, as well by its Statement in Response filed before the Commission, as by the oral argument of counsel on its behalf, has denied the jurisdiction of the Commission to grant this application.

The grounds of this denial of jurisdiction are that by Article VII of the Webster-Ashburton Treaty of 1842, it was stipulated "that the channels of the River St. Lawrence on both sides of the Long Sault island and of Barnhart island . . . shall be equally free and open to the ships, vessels, and boats of both parties." From this it was urged that any interference with the free and open navigation of the south Sault channel is not within the jurisdiction of the International Joint Commission, but should be dealt with by direct negotiations between the High Contracting Parties.

Briefly stated this denial of jurisdiction contends that inasmuch as it was agreed that the South Sault channel should be equally free and open to the ships, vessels and boats of both parties, the Commission has no jurisdiction to grant the prayer of the applicant.

If this means that because of Article VII of the Webster-Ashburton Treaty, the Commission should not, as a matter of international right, grant the present application, the point is one that can be very properly urged before the Commission, but if the objection be to the jurisdiction of the Commission to consider and pass upon the application and to grant the prayer of the same, if the applicant has justified the right thereto, the Commission is unable to agree with this contention.

It is obvious that the whole foundation of the jurisdiction of the Commission is to be found solely in the Waterways Treaty. A stipulation made in the Webster-Ashburton Treaty may be binding on the High Contracting Parties, and may be so considered by the Commission, but it is certainly without effect on the jurisdiction conferred on this Commission by the Waterways Treaty.

Looking therefore at the latter Treaty alone, Article VIII determines the jurisdiction of the Commission over all boundary waters, and gives it jurisdiction over and power to pass upon "all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this treaty the approval of this Commission is required."

Article III refers to boundary waters and to their use, obstruction and diversion, and before any new use, obstruction or diversion can be made, saving the case of a special agreement between the High Contracting Parties, the authority of the country in which the use, obstruction or



diversion is made and the approval of the Commission are required. The South Sault channel is a boundary water within the definition of the Treaty, the Preliminary Article of which defines boundary waters,

“as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.”

Therefore the Commission has jurisdiction with regard to any obstruction intended to be placed in this channel, which is undoubtedly a boundary water, and the proposed weir is such an obstruction.

It is unnecessary to refer to Article IV (which applies to waters flowing from boundary waters and to waters at a lower level than the boundary, within which description the Long Sault channel does not come) further than to say that this Article emphasizes the wide jurisdiction which is conferred upon the Commission by the Treaty.

Even assuming that the Webster-Ashburton Treaty prevents the construction of the proposed weir, the prohibition of this Treaty can give rise to no objection to the jurisdiction of the Commission to hear the application, but may be merely urged as a reason why the application should be denied.

This sufficiently disposes of the objection that the Commission is without jurisdiction, which objection in the opinion of the Commission is groundless.

#### THE WEBSTER-ASHBURTON TREATY.

The main contention of the Canadian Government and of the other interests opposing the application was that Article VII of the Webster-Ashburton Treaty of 1842 is an absolute bar to the construction of the proposed weir in the South Sault channel. This Article is in the following terms:—

“VII. It is further agreed that the channels in the river St. Lawrence on both sides of the Long Sault islands (Croil island was then called ‘Upper Long Sault island’) and of Barnhart island, the channels in the river Detroit on both sides of the island Bois Blanc, and between that island and both the American and Canadian shores, and all the several channels and passages between the various islands lying near the junction of the river St. Clair, with the lake of that name, shall be equally free and open to the ships, vessels and boats of both parties.”

On the one hand it was contended that this provision absolutely prevents the construction of the proposed submerged weir, and on the other hand, while there was some discussion as to the exact meaning and effect of

Article VII, the chief contention was that this Article has been superseded by the provisions concerning navigation of the Waterways Treaty, and is no longer a binding enactment.

It is needless to say that the legal problem thus submitted to the Commission is an extremely important one. Without any idea whatever of reflecting in any way on the arguments of counsel, it may be added that this question should be most exhaustively argued, and that before deciding it the Commission should have ample time for full consideration.

Neither of these requirements has been available to the Commission. The arguments of counsel—probably on account of the very magnitude of the interests involved and the many questions of fact arising out of the testimony, and also on account of the number of those who desired to be heard—did not deal exhaustively with this question. Giving the fullest possible effect to Article VII of the Webster-Ashburton Treaty, it still remains to determine whether the words “free and open” have the absolute and unqualified meaning contended for. These words are used in other provisions of the same treaty, especially in Article II where it is stated that “all water communications and all the usual portages along the line from Lake Superior to the Lake of the Woods, and also Grand Portage, from the shore of Lake Superior to the Pigeon river, as now actually used, shall be *free and open* to the use of the citizens and subjects of both countries.” These words are also used in the Treaty of Washington of 1871, as to the navigation of the river St. Lawrence, from the forty-fifth parallel of north latitude to the sea, and this is a treaty right secured by the citizens of the United States. Would it be contended that the closing of the Rainy river at International falls for power development, which has been done, or of the St. Lawrence river at the Lachine rapids, where an alternative navigation route exists via the Lachine canal, would be a violation of treaty rights? And there is the further question whether the High Contracting Parties, in 1909, did or did not, by the navigation provisions of the Waterways Treaty, extending to all navigable boundary waters as defined by this treaty,—and the South Sault channel is a navigable boundary water—supersede or at least absorb the prior and incomplete navigation provisions of the Webster-Ashburton Treaty of 1842? It is sufficient to simply state these questions to show that they should not be hastily decided, but only after the most exhaustive argument and the fullest consideration.

Time was wanting for this full consideration. A sudden emergency had arisen. The Secretary of War of the United States, in a letter dated August 23, 1918, and addressed to the Commission urged that the permit he had granted to the applicant be approved. He stated that “the War Industries Board is apprehensive that the supply of aluminium will not be adequate for the requirements of the Government and of our Allies, and is

therefore wisely encouraging the increase of output. The War Department is, I need not say, vitally interested that there shall be at all times an adequate supply of this product to meet the requirements of our military program and the program of our Allies." (See the whole of this letter printed in the appendix to this Opinion). The uncontradicted evidence showed that this weir had to be immediately commenced, and that if the authority to construct it should come later than the 15th of September, it would be very doubtful whether it could be completed this year. (See the statement of Mr. Rickey at the close of the Montreal hearing). Under these circumstances the Commission had to take the responsibility of acting immediately so as to cope with this sudden and very urgent emergency. It is confident that while discharging its duty so as to fully provide for this emergency, it has so framed its order of approval that no rights of either country or of any of its citizens can possibly be jeopardized by its action.

#### SCOPE OF THE ORDER OF APPROVAL.

The principle which dominates the order of approval granted by the Commission is that the construction of the submerged weir is approved merely for a term of five years or until the termination of the present war, whichever shall last occur. The order of approval is adopted "as an interim measure," and the Commission does not, at the present time, finally decide the question whether it should approve of the construction and permanent maintenance of the weir. In other words, following the practice of courts familiar to all lawyers, an interim order is made, and the whole question of the right of the applicant to construct and maintain the weir is not finally passed upon. The question therefore remains an open one, and no right of any Government or interest to object to the weir as a permanent structure is affected by the order of approval.

The order goes further and obliges the applicant to remove the weir at the expiration of the period specified. By constructing it under the terms of the order, the applicant accepts this condition, and without any further order of the Commission is bound to remove the weir. There does not seem therefore to be any ground for the fear expressed by Hon. Mr. Guthrie, in his argument before the Commission, that "if it goes in, it will never come out," for it must come out unless the Commission, on a new application, and after hearing all parties interested, allows it to be maintained. The removal of the weir, at the end of the term fixed, is not even conditioned on the reimbursement to the applicant of the moneys it has expended in constructing it. In other words, if the applicant builds the weir, it can only build it as a temporary structure, and must remove it unless a new order is obtained from the Commission, and if the company applies for a new order, the whole question of its right to place an obstruction in



the South Sault channel will be examined anew as if this order of approval had never been granted.

It is to be further observed that the applicant is identically in the same position should the Secretary of War of the United States order the removal of the weir. The permit of the War Department contains the express condition,

"that if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of War, it shall cause an unreasonable obstruction to the free navigation of said water, the permittee will be required, upon due notice from the Secretary of War, to remove or alter the structural work or obstructions caused thereby without expense to the United States, so as to render navigation reasonably free, easy and unobstructed; and if, upon the expiration or revocation of this permit, the structure, fill, excavation or other modification of the water-course hereby authorized shall not be completed, the permittee at his own expense, and to such extent and in such time and manner as the Secretary of War may require, shall remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the water-course. No claim shall be made against the United States on account of such removal or alteration."

Mr. Gordon, in his argument before the Commission, stated that if the company does not remove the structure within the time specified by the Secretary of War, it would be liable to a fine of \$5,000 a day. Looking at the matter from any viewpoint, it is clear that the applicant acquires no vested right by virtue of the order of the Commission, and the condition imposed by this order is even more rigorous than that contained in the permit issued by the Secretary of War, for the expiration of the term specified, without any further order of the Commission, compels the applicant to remove the weir.

As a matter of fairness, however, and because the order of the Commission is a mere interim measure, this order reserves to the applicant or any other interested party the right to apply to the Commission, at least one year before the expiration of the period specified, for a further continuance of the submerged weir. It will make this application without having acquired any vested right by reason of the present order, and then the Commission may approve of such continuance on such terms and conditions as it may deem appropriate and equitable for the protection of the rights and interests of the people on both sides of the line in accordance with Article VIII of the Waterways Treaty. It is not easy to see how the rights of the people in both countries could be more carefully safeguarded, and if, on such application, the continuance of the weir is not allowed, the applicant will be obliged to remove it.



An important condition of the order is that whereby, for the purpose of protecting the rights, property and interests on either side of the boundary from any injurious effect resulting from the construction and maintenance of the weir, the Commission, during the term of its approval, retains jurisdiction over the subject matter of the application, and may make such further order in the premises as may be necessary.

A fear has been expressed that some damage may be caused to Canadian interests by reason of the construction of the weir. Should such damage occur, and the opposing interests did not introduce any testimony to show that it is seriously to be apprehended, the commission can be and should be appealed to. Before the making of an application for the continuance of the weir there will be at all events ample time to ascertain whether there has been any detriment to navigation or other interests. And there appears no doubt that the questions which have been discussed before the Commission will then receive from all interests the attention they deserve, and that the Commission will be assisted in the discharge of its duty by full and complete testimony concerning any possible effect of the construction and maintenance of the submerged weir.

With respect to the Statement in Response filed by the State of New York, and its claim that the construction of the weir would be an invasion of the rights of its citizens in and to the navigable waters of the St. Lawrence river, and of its rights of ownership of the bed of the river, it will be sufficient to say that no such rights are in any way affected by the order of approval.

It has not escaped the Commission that there is some vague fear that a powerful company will obtain, under the order of approval, some rights, powers, and privileges which properly belong to the public. It is hoped, however, that a careful examination of the order of approval will convince any unprejudiced critic that the Commission has not sanctioned any real invasion of sovereign or public rights. It was called upon to discharge its duties under circumstances which required it to take full responsibility for the order of approval it has granted. It feels that when all these circumstances are calmly considered and the order of approval is carefully read, any feeling of apprehension of impending detriment to the public weal will be dispelled.

There is just another matter which may be mentioned, if only to show that the Commission did not refuse to give it all the attention to which it was entitled. When the Commission met in New York on September 12, to consider its decision on the application, Mr. Frank H. Keefer, K.C., on behalf of the Government of Canada, applied for leave to lay before the Commission an Order in Council of the Canadian Government bearing date September 2, whereby that Government proposed to the Government of the

United States to withdraw the whole matter from the purview of the Commission and to make it immediately the subject of diplomatic negotiations between the two Governments. Mr. George W. Koonce, of counsel for the United States, who was present when Mr. Keefer came before the Commission, stated that the view of the latter Government was that the Commission should dispose of the application which was regularly before it. Inasmuch as the Commission can entertain no doubt as to its full jurisdiction, it is obvious that, unless a special agreement had been made under the treaty, and there was no suggestion that any such agreement had been entered into, the duty of the Commission was to pass upon the application. This it has done, but it may be permitted to say that it has given to the Order in Council of the Canadian Government its most serious and respectful consideration.

The order of approval is granted subject to the conditions therein mentioned.

Opinion by Mr. Mignault.

## APPENDIX.

### I.

WAR INDUSTRIES BOARD,

WASHINGTON, August 8, 1918.

The Chairman,

International Joint Commission,

Washington, D.C.

Mr DEAR SIR,—The War Industries Board is apprehensive that the supply of aluminum may not be adequate to the demands of the Allied Governments, and is therefore particularly desirous that any opportunity for increasing the output be taken advantage of. While there is at present just about a balance between the demand and the supply of aluminum, it would be a great advantage to increase the output, especially as the demand is likely to be increased, while the output cannot be increased except by new construction. Such an increase would be an insurance against fire, strikes, and other causes.

In addition I may state that there is practically no available stock of aluminum on hand. During the winter we expect not only interruptions in transportation but also interferences in power, and especially at Niagara Falls, New York.

We therefore recommend that the application of the Aluminum Company of America, for which permit was received from the United States Govern-

ment, to build a submerged weir in the St. Lawrence river near Massena, New York, be granted. As this weir is in a boundary stream the permit has also to be approved by the International Joint Commission and we therefore beg that you approve this application.

The construction of the weir will increase the horsepower at Massena by some few horsepower all the time, but its object is the remedial effect on ice conditions. The plant now produces 80,000 horsepower for nine months in the year, but is reduced by from 5,000 to 15,000 horsepower during the months of January, February and March. The construction of a weir will substantially relieve that condition and if work can be permitted on the construction of the weir a large increase in output for the first three months in 1919 will be effected,—the time when we most need this increase in output, especially in the production under the Aircraft program.

It is believed that there will be absolutely no disadvantage to Canadian navigation, and for reasons given above we beg that you approve the application for the submerged weir on the St. Lawrence river at Massena, N.Y., asked for in the application.

Yours very truly,

B. M. BARUCH,  
*Chairman War Industries Board.*

## II.

WAR DEPARTMENT,  
BUREAU OF AIRCRAFT PRODUCTION,  
Washington, August 9, 1918.

*From Office of the Director of Aircraft Production  
To Chairman, International Joint Commission of the United States and  
Canada, Southern Building, Washington, D.C.*

### SUBJECT:

1. It seems very advisable to increase the production of aluminum, and we understand this can most quickly and easily be done by allowing the permit that the Aluminum Company of America have made application for to construct a submerged weir in the St. Lawrence river at Massena, N.Y.

2. As this matter is of the greatest importance and as we understand the International Joint Commission of the United States and Canada meets next Monday, we heartily recommend immediate and favorable action on the application of the Aluminum Company of America, unless there are some specific and important navigation difficulties that present themselves to make this action inadvisable.

By direction of the Director of Aircraft Production.

M. W. KELLOGG,  
*Acting Director of Aircraft Production.*

## III.

WAR DEPARTMENT,  
Washington, August 23, 1918.

THE HONOURABLE,  
THE CHAIRMAN OF THE INTERNATIONAL JOINT COMMISSION,  
Washington.

SIR,—The War Industries Board is apprehensive that the supply of aluminum will not be adequate for the requirements of the Government and of our Allies, and is therefore wisely encouraging the increase of output. The War Department is, I need not say, vitally interested that there shall be at all times an adequate supply of this product to meet the requirements of our military program and of the programs of our Allies.

I am informed that the Aluminum Company of America has made application for a permit to build a submerged weir in the St. Lawrence river near Massena, New York, with a view of increasing the horsepower at that point during the months of January, February and March, to meet the interference in power at Niagara which normally occurs during the winter months. As the proposed weir is in the boundary stream, the permit, which I understand has been received from the United States Government, requires the approval of your Commission. It is believed that no disadvantage to Canadian navigation will result from such a construction.

In view of these facts, may I respectfully urge that this permit receive your approval, if consistent with the practice of your Commission.

Respectfully yours,

NEWTON D. BAKER,  
*Secretary of War.*



# INTERNATIONAL JOINT COMMISSION

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## IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY

FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE  
OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF  
THE ST. LAWRENCE RIVER NEAR THE MOUTH  
OF ITS POWER CANAL AT MASSENA,  
NEW YORK.

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OPINION BY MR. POWELL

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OTTAWA  
J. DE LABROQUERIE TACHÉ  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1918



# INTERNATIONAL JOINT COMMISSION.

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**IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER NEAR THE MOUTH OF ITS POWER CANAL AT MASSENA, NEW YORK.**

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## OPINION.

Long Sault island is situate in the St. Lawrence river where it divides the Province of Ontario, Canada, from the State of New York, United States of America. The river at this point is non-tidal and its waters between the island and the Canadian shore are known as the North Sault channel, which I will hereinafter refer to as the north channel. Throughout the length of this channel runs the international boundary. The Long Sault rapids are located in the channel near its lower end. The channel is navigable down stream, but not up stream. Between the island and the United States shore the remaining waters of the St. Lawrence flow down in what is known as the South Sault channel, which I will hereinafter refer to as the south channel. In this channel, which will not permit of the passage of vessels with a greater draught than five or six feet, there also are rapids capable of being navigated down stream, but in which only small shallow-draught boats and launches can navigate up stream. Up stream navigation in the St. Lawrence past Long Sault island is generally by way of the Cornwall canal, owned by the Government of Canada. Immediately west of Long Sault island lies Croil island, which is separated from it by a channel called the Big Sny, the waters of which flow northward to the north channel. The channel to the south of Croil island is large and its waters are divided by Long Sault island, the greater portion being diverted northward through the Big Sny to the north channel. The water remaining after this diversion would, if uninterfered with, all flow down the south channel. Some years ago a power canal, now owned by the applicant, the St. Lawrence River Power Company, was dug about thirty feet deep, from the town of Massena in the State of New York, a distance of about three miles, to a point on the south channel, distant easterly four or five thousand feet from the Big Sny.

To divert the waters of the south channel into this canal a wing dam or jetty was built from a point immediately below the intake of the canal one-third way across the channel. A power plant was constructed at Massena to develop electricity for an aluminum reduction plant in the town, using the water brought by this canal. This is one of several associated plants which turn out the greater part of the aluminum produced in America. About 85,000 horse-power is developed by the power plant; but this is insufficient for the company's undertaking, and it is obliged to supplement the power thus generated by importing a large amount of electricity from the Cedars Rapids Power Company in Canada. The waste water from the power house is discharged into the Grasse river, which, not having sufficient capacity, was excavated to a depth of about sixteen feet until it joined the St. Lawrence river down stream. The total cost of the power canal, the aluminum plant and other plants and of the dredging in the Grasse river, amounts to about \$25,000,000. In operating its power plant the applicant has suffered a severe drawback, during the months of January, February and March, from ice plugging the south channel and almost entirely cutting off the flow of water into the power canal. The applicant proposed to remedy this evil—

(1) By extending the wing dam above mentioned in the form of a submerged weir to Long Sault island, which would serve the dual purpose of raising the level of the south channel above the weir, and of increasing the head of water at the power plant.

(2) By excavating a shoal, known as Dodges shoal, situate at the entrance to the south channel, and

(3) By erecting a boom across the entrance to the channel to divert ice coming down the channel south of Croil island, into the Big Sny, and thence down the north channel.

In order to obtain the necessary license to construct these works, the applicant applied to the proper authority in the United States for approval of its plans for all three. This approval was granted; and the company then made application to the Commission for its approval of the weir under Article VIII of the Treaty of 1909 between Great Britain and the United States.

The excavation of Dodges shoal would, certainly, and the construction of the boom would, possibly, in the absence of remedial works, require the approval of the Commission, but the application does not include either.

After the application had been filed, but before it was ready for hearing under the rules of the Commission, the United States Government intervened with a request that the Commission suspend its Rules of Procedure and at once hear the application, basing its request upon the facts that the United States required for war purposes a larger amount of aluminum



than is available in the country, and that its needs could only be supplied by immediately increasing the output of the company's reduction plant.

The Commission suspended its rules and fixed the hearing of the application for the twenty-ninth day of August last at Montreal. At the time and place fixed for the hearing the applicant, the United States, the Dominion of Canada, the State of New York, the Province of Ontario, the Montreal Harbour Commission and the Dominion Marine Association all appeared by counsel.

When counsel for the applicant had submitted their evidence in support of the application, the Honourable Mr. Guthrie, Solicitor-General, and Mr. Keefer, K.C., as counsel for Canada, stated to the Commission that the Government of the Dominion, while desirous of forwarding in every way the common interest of the United States and the other Allies in the war, and willing that the United States Government should put in the weir applied for, would not consent to a private company doing so. They then took the two following objections:

(1) That the Ashburton Treaty guaranteed to Canada the right to navigate the south channel, and that the weir would, if constructed, be in contravention of the treaty.

(2) That the Commission had no jurisdiction to hear or entertain the application.

They did not submit any evidence, but relied solely upon these objections. They suggested, however, that the Governments of the Dominion and of the United States could doubtless arrive at some agreement which would render it unnecessary for the Commission to proceed any further. The only agreement the Commission could, under the Treaty of 1909, recognize legally, would be a special agreement under Article XIII of the treaty. By this article special agreements "are understood and intended to include not only direct agreements between the High Contracting Parties, but also any mutual arrangement between the United States and the Dominion of Canada, expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of the Dominion." The Commission adjourned the application until the twelfth of September at New York, when it was announced by counsel for the United States that no special agreement or other agreement had been arrived at. Hence it became the duty of the Commission to pass upon the application.

The objections raised by the counsel for Canada call for a consideration of Article I of the Treaty of 1909 in its effect upon Article VII of the Ashburton Treaty. These articles are as follows:

(Article VII of the Ashburton Treaty)

"It is further agreed that the channels in the river St. Lawrence on both sides of the Long Sault Islands and of Barnhart Island, the channels

in the river Detroit on both sides of the island Bois Blanc, and between that island and both the American and Canadian shores, and all the several channels and passages between the various islands lying near the junction of the river St. Clair, with the lake of that name, shall be equally free and open to the ships, vessels, and boats of both parties."

(Article I of the Treaty of 1909)

"The High Contracting Parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce, to the inhabitants, and to the ships, vessels, and boats of both countries equally, subject, however, to any laws and regulations of either country, within its own territory, not inconsistent with such privilege of free navigation and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries" . . . .

Three questions suggest themselves:

(1) Does Article I of the Treaty of 1909 supersede or rescind Article VII of the Ashburton Treaty?

(2) If question (1) is answered in the affirmative, has the Commission power to approve of any obstruction in the south channel which would prevent its being used for navigation purposes?

(3) If question (1) is answered in the negative, has the Commission the power to approve of any such obstruction in the south channel?

In view of the great interest which is taken by the public generally throughout the St. Lawrence basin on both sides of the international boundary in the power and navigation rights in the Niagara and St. Lawrence rivers, and of the serious misconceptions which exist as to what the applicants are seeking to obtain in this proceeding, I will discuss the case at greater length than I otherwise would. The chief part of this discussion will concern the rights which the two countries had in the St. Lawrence river previous to the Ashburton Treaty (1842), and the effect upon these rights of that treaty and of the Treaty of 1909.

Throughout almost the entire length of the boundary portion of the river, its waters flow through one channel only, but in some sections they flow through two or more channels. The channel through which the boundary line runs, whether it be the only channel, or one of two or more channels, I will refer to hereinafter as the boundary channel. Previous to the Ashburton Treaty Canada, as sovereign rights, possessed in the Canadian waters and in the bed of these waters on the north side of the boundary line two common law rights to which attention must be directed--the right of property and the right of navigation,—and the United States possessed similar rights in the waters on its side of the boundary line. By international law the United States possessed in the Canadian waters of the boundary channel the right of navigation in common with

Canada, and Canada possessed in the United States waters of the boundary channel the right of navigation in common with the United States, but neither country possessed any right either of property or navigation in the remaining waters of the other which lie outside of the boundary channel. While these two rights, the right of property and the right of navigation, were co-existent, the right of navigation took precedence of the right of property, in other words it was the superior right of the two.

I will consider what these common law rights were. Lord Kingsdown, delivering the judgment of the Judicial Committee of the Privy Council of Great Britain in *Minor vs. Gilmour* (English Reports, 12 Moore P. C. page 131), thus defines the rights of property in running streams:

“By the general law applicable to running streams, every riparian proprietor has a right to what may be called the ordinary use of water flowing past his land; for instance, to the reasonable use of the water for his domestic purposes and for his cattle, and this without regard to the effect which such use may have, in case of a deficiency, upon proprietors lower down the stream. But, further, he has a right to the use of it for any purpose, or what may be deemed the extraordinary use of it, provided that he does not thereby interfere with the rights of other proprietors, either above or below him. Subject to this condition, he may dam up the stream for the purpose of a mill, or divert the water for the purpose of irrigation. But, he has no right to interrupt the regular flow of the stream, if he thereby interferes with the lawful use of the water by other proprietors, and inflicts upon them a sensible injury.”

The term “riparian proprietor” as used by Lord Kingsdown, includes, when necessary, the owner of the alveus or bed of the stream. The rights of property described by him must be adjusted to the right of navigation and are subject to its reasonable requirements.

Lord Blackburn, in *Orr Ewing vs. Colquhoun*, reported in L.R., 2, A.C. 1876-7 (English House of Lords), at page 861 says:

“I think it clear law in England, that, except at the instance of a person (including the Crown) whose property is injured, or of the Crown in respect of an injury to a public right, there is no power to prevent a man making an erection on his own land, though covered with water, merely on a speculation that some change might occur that would render that piece of land, though not now part of the water way, at some future period available as part of it. I think that the land being covered by water is in such a case a mere accident, and that the defenders are as much at liberty to build on the bed of the river, if thereby they occasion no obstruction, as they would be to build on an island which might at some future period be swept away.”



The right of navigation is a right of way or passage. As a public right (and it is only as a public right that it will be considered by me) it is the right which every one of the public has to go from place to place in some water as occasion may require, and to do whatever is reasonably necessary as incidental thereto, without any unreasonable interference on the part of any other person. The only absolute element in the right is a reasonable opportunity to reach an objective point. The manner in which and the area within which this right may be exercised depend upon an adjustment, under all the circumstances of the individual case, of co-existent rights, in which adjustment precedence is to be given to the requirements of navigation.

Where navigation in a river is congested and the right of landing cargo or shipping cargo is exercised generally along the banks, and the right of anchorage is enjoyed to a large extent, the reasonable needs of navigation may require an entire abstention from interference on the part of people claiming property or other rights in the bed of the stream. Where navigation is very limited, embankments, jetties, or other structures, placed in the exercise of proprietary rights, might substantially narrow the stream, and yet there might be no illegal interference with the right of navigation. In the former case a power dam across the river, although provided with locks for the passage of vessels, doubtless would be an illegal interference with the right of navigation, while in the latter case a dam for power purposes, with lock facilities ample to accommodate the limited navigation existing, might be perfectly legal from the standpoint of navigation. Whether the dam would or would not, as an interference with navigation, be unreasonable, is a question of fact.

The case of *Pennsylvania vs. Wheeling Railroad Company*, 13 Howard (United States Supreme Court Reports) on page 518, deals with a state of facts very similar to the present, and is so illustrative of the legal principles involved that I will briefly digest it—

The Ohio river is a large navigable river flowing through the State of Pennsylvania into West Virginia. Zanes island is situate in the river below the boundary line. The channel on the eastern side of the island was in its natural condition broad and deep, and navigable by all vessels which would have occasion to use it. The channel on the west side of the island was not, in its natural condition, navigable to an extent which would permit of the passage through it of large vessels with convenience or safety. The defendant company in constructing its railway built a high suspension bridge over the eastern channel and a wooden bridge over the western channel. At that time the river navigation served a large commerce between Pittsburgh and other towns and cities along the river above and below the bridge. This commerce was in part carried on by steamers,

some of which had smoke-stacks too high to admit of passage under the suspension bridge. The bridge over the western channel prevented navigation entirely. A suit was brought against the railway company for an injunction to remove the suspension bridge, but the court acted on the view that if an ample draw were placed in the western bridge, and excavation made in the western channel so as to admit of the passage of all vessels safely and conveniently through it, an injunction would not be granted. In other words the court was of opinion that if these improvements were made, the suspension bridge would not constitute an unreasonable interference with navigation, and vessels passing down stream could not complain of the obstruction.

A case which strikingly illustrates the foregoing principles is *The King vs. Bartholomew* (L.R., 1908) 1 K. B., at page 554. The case was of a highway on land and not of a highway on water; but the principles governing in each case are identical. In the middle of St. Mary's Butts there is one of the main public streets of the borough of Reading. The street, including sidewalks, is 66 feet wide, and Bartholomew placed and maintained in the middle of it a coffee stall 5 feet 6 inches wide and 11 feet long. A prosecution was brought against him for creating and maintaining a nuisance by obstructing the highway with his coffee stall. The jury found that the obstruction was placed by Bartholomew, but did not appreciably interfere with traffic in the street. The presiding judge entered a verdict of "guilty," but the Court of Crown Cases Reserved held that the verdict had been wrongfully entered as the finding of the jury was equivalent to a verdict of "not guilty" and the conviction was quashed.

There are many dicta of judges to be found in the English, United States and Colonial reports, which seem on their face to be at variance with the principles just stated; but on close analysis it will be found that in the great majority of cases the inconsistencies are more apparent than real—the result of looseness of thought or carelessness of expression confounding the right of navigation with the right of property. The slightest appreciable physical interference with public or private rights of ownership in the bed of the stream, infringes the right of property, and will support an action for purpresture or trespass; but a public prosecution will not lie for an obstruction of a right of navigation (which is a nuisance) unless the obstruction is unreasonable. As the public generally own the soil in navigable rivers, wrongful physical interference with the bed of a stream is in the majority of cases, at one and the same time, both a nuisance and a purpresture, and the information of the Crown or state against the wrongdoer generally proceeds on both grounds. Observations made in these cases respecting one wrong are frequently expressed in terms sufficiently general to include both. Confusion is apt to result also from the ambiguity in the use of the word "obstruction" when applied to

navigation. In its ordinary meaning an obstruction is a mere impediment or interference; but in its technical meaning or as a term of law, it generally signifies an impediment or interference to navigation which is unreasonable. The law reports contain many cases in which it is laid down that any obstruction of a navigable stream is illegal. When the term is thus used, it will generally be found that the judge using it meant any "unreasonable obstruction." There are dicta in cases growing out of tidal waters which are inapplicable to navigation in waters like the south channel.

Since the United States and Canada were entitled in common to the right of navigation in the boundary channel in each other's territory, the cases cited are sufficiently illustrative of the principles which govern their respective rights in the boundary portion of the St. Lawrence before the adoption of the Ashburton Treaty.

I will now pass to the consideration of the effect which Article VII of that treaty (already quoted) had upon the rights of the two countries in the boundary portion of the river. It is only necessary to consider the following provision of that article:

"It is further agreed that the channels in the river St. Lawrence on both sides of the Long Sault Islands, and of Barnhart Island . . . shall be equally free and open to the ships, vessels, and boats of both parties."

Without seeking for an explanation why the boundary channels opposite these islands were included in this provision or why the right of navigation was expressed as limited to ships, boats and vessels, I may say that the only effect of this treaty upon navigation in the Long Sault island section of the boundary portion of the St. Lawrence was to give Canada the right of navigation in the waters of the United States to the south of the boundary channel by ships, vessels and boats only; and to give the United States the same right of navigation in Canadian waters to the north of the boundary channel.

It was contended by Mr. Guthrie and Mr. Keefer, counsel for Canada, that this article conferred upon that country a right of navigation in the south channel which the United States could not destroy without violating the treaty. It is clear I think from Article VII that something more than the mere servieney of this channel to a right of navigation in the river generally was effected, or was intended to be effected, by the High Contracting Parties. It gave Canada a separate and distinct right of way or passage through this channel, independently entirely of the existence of any other channel. This view is confirmed by the correspondence between Mr. Webster and Lord Ashburton which led up to the adoption of the article as it now stands. Great stress was laid by counsel upon the



provision that the channel shall be "free and open" to ships, etc., of both parties. When applied to navigation the words "free and open" have not their ordinary meaning, but an artificial and technical meaning; and no violation of the requirements of these words of the treaty is caused by any reasonable interference with navigation. It was also assumed that there was some peculiar inviolability attached to a treaty right of navigation, and that this feature deprived the United States and its citizens, as proprietors of the bed of the channel, of all right to erect a structure such as the proposed weir. No authority was quoted for this assumption, and I can see no reason why a treaty right of navigation, at whatever price it may have been purchased, should, as against a country claiming its benefit, be more exclusive of proprietary rights than would the ordinary public right. An interesting controversy beginning in 1883 and extending over some years took place between Great Britain and the United States regarding a boom placed across the Meduxnikik river in New Brunswick, a tributary of the St. John river flowing through a part of the State of Maine, across the international boundary line, and through a portion of New Brunswick, joining the latter river at a distance of about sixty miles from the point where it ceases to form the international boundary. The boom provided for an opening for the passage of logs. For some time before and after the Ashburton Treaty the river St. John afforded the only means by which logs cut in the State of Maine on the tributaries of that river could be got to the seaboard. Article III of the Ashburton Treaty provides that in the boundary portion of the St. John river, navigation "shall be free and open to both parties, and it shall in no way be obstructed by either; that all the produce of the forest, in logs, lumber, timber, boards, staves, or shingles, or of agriculture, not being manufactured, grown on any of those parts of the State of Maine watered by the river St. John, or by its tributaries, of which fact reasonable evidence shall, if required, be produced, shall have free access into and through the said river and its said tributaries, having their source within the State of Maine, to and from the sea-port at the mouth of the said river St. John's, and to and round the falls of the said river, either by boats, rafts or other conveyance" . . . .

Baird, an American citizen, owner of logs cut on the Meduxnikik in Maine, hauled them into the stream and drove them into the space above the boom referred to, where they were subjected to the necessary inconvenience and delay connected with sluicing them through the opening in the boom. Complaint was made to the United States Government that the boom was an infraction of the treaty right of "free access" to the river St. John. Mr. John Russell Lowell, then United States Minister to Great Britain, took the matter of the complaint up with Earl Granville, British Secretary for Foreign Affairs. The Executive Council for the Province of

New Brunswick, then under the leadership of Hon. A. G. Blair, afterwards Minister of Railways for Canada, made two reports defining the attitude of that Province in respect to the complaint of Mr. Baird. These reports may be summarized as taking the ground that the interference with Baird's logs was in the reasonable exercise of the right of property and did not constitute a violation of the treaty. The Canadian Privy Council on a report from Sir Alexander Campbell, Minister of Justice (Sir John A. Macdonald being premier) approved of the attitude taken by New Brunswick; and finally Lord Salisbury, who had succeeded Earl Granville as Secretary for Foreign Affairs, in a note to Mr. Phelps, who had succeeded Mr. Lowell as Minister at the Court of St. James, set forth Canada's views, which he impliedly approved. In this note he says: "In that despatch His Excellency the Marquis of Lansdowne states that it appears to be clearly established that the erection of a boom such as that of Messrs. Hall and McMurchie at Woodstock, cannot be properly regarded as constituting of itself a violation of the provisions of the Ashburton Treaty, unless it be designed or constructed in such a manner as to prevent the logs of other parties interested in the navigation from descending the river. But the Marquis of Lansdowne adds that if evidence can be produced showing that the dimensions of the opening or sluice are insufficient for the purpose of giving the facilities usual in the lumber trade to the logs of other parties, his Government (of the Dominion) are prepared to move that of New Brunswick to introduce whatever legislation may be necessary in order to remedy the defect.

"If on the other hand the dimensions of the sluices are sufficient and the design of the boom generally unobjectionable, having regard to the carrying capacity of the river, and the custom of the lumber trade, and if the allegation of Mr. Baird is that the parties having control of the boom make an improper use of it and take advantage of the opportunities afforded them in order to illegally interfere with the transit of Mr. Baird's logs, that gentleman should have resort to the provincial courts which under the terms of the local Act authorizing the construction of the boom, are expressly empowered to protect persons sustaining loss from such a course." This note closed the controversy.

In the portion of the St. John river itself which flows exclusively through Canadian territory, New Brunswick has erected at least twelve bridges, four of which are in the tidal portion of the river between the city of St. John and the city of Fredericton and six between the city of Fredericton and the point at which the river forms the international boundary. With the exception of the two bridges at the city of St. John which have one arch each spanning the whole river, all of these bridges have several large piers resting on the bed of the stream.

In the year 1875 a complaint was made by the United States to Great Britain in regard to the one at Andover. It was claimed the structure interfered with navigation and was a violation of the Ashburton Treaty. Great Britain and Canada took the ground that inasmuch as a reasonable opportunity was afforded for the passage of logs and vessels through the draw and spans of the bridge there was not an unreasonable interference with navigation. The United States pushed the protest no further.

Two of the bridges stretch across the river at the city of Fredericton, where the stream is about half a mile in width. These would prevent the passage of vessels were it not that they are each provided with a draw. The other two bridges in the tidal portion of the river are at the city of St. John and are quite a height above the water; but not sufficiently high to admit of the passage thereunder of large vessels unless all their spars and rigging are taken down. These would have to be set up again, which would involve quite an amount of expense and loss of time. All of these twelve bridges, I am informed, although I have not had time to confirm my information, were authorized by the Government of Canada.

The language of the Ashburton Treaty with respect to navigation in the portion of the St. John river which forms part of the international boundary, is very strong. It says, "the navigation of the said river shall be free and open to both parties, and shall in no way be obstructed by either." The Province of New Brunswick and the State of Maine have constructed several bridges in this portion of the river of the same general character as the bridge at Andover excepting that they contain no draw.

Canada's and Great Britain's practice and contentions are completely at variance with the contentions of Canada's counsel as to the peculiar inviolability of a treaty right of navigation.

The situation under the Ashburton Treaty existing in the waters along the boundaries was not satisfactory, and disputes arose respecting their uses, diversions and obstructions. There was no tribunal clothed with the necessary power to adjust these disputes or to adjust the conflicting rights out of which these differences largely arose. If any remedy had to be resorted to it was the slow and expensive procedure by diplomatic settlement. The High Contracting Parties therefore devised the broad and comprehensive scheme embodied in the Treaty of 1909, to control these uses, diversions and obstructions, and to prevent and settle all disputes. They grouped together all the waters which are included in the term "boundary waters," from the Atlantic to the Pacific, and those which are navigable were thrown open without exception, at least express exception, "for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally," reserving to each country at the same time the right to make "laws and regulations of either country, within its



own territory, not inconsistent with such privilege of free navigation, and applying equally and without discrimination," etc. They provided also that the two countries should have, "each on its own side of the boundary, equal and similar rights," including the right of "equal division," in the waters of these boundary rivers, prescribing an order of precedence of the different uses. To carry out these provisions of the treaty they constituted the International Joint Commission, to which they delegated, I might even say abdicated, their powers in respect to the uses, obstructions, and diversions of the water of the rivers generally, which have certain effects mentioned in Article III of the Treaty of 1909—effects which would result from the construction of this weir. These powers are to be exercised by the Commission until the High Contracting Parties resume them, either generally, by one of the parties terminating the treaty under Article XIV, or, in respect to any particular matter by the two parties entering into a special agreement as provided for in Article XIII already quoted.

Question (1). Does Article I of the Treaty of 1909 supersede or override Article VII of the Ashburton Treaty?

Both the Honourable Mr. Guthrie and Mr. Keefer, counsel for Canada, in their arguments before the Commission, which were able as far as they went, chiefly relied upon the fact that Article I of the Treaty of 1909 was a general provision, while Article VII of the Ashburton Treaty (1842) dealt with a few special cases only. They contended that the well known principle applied, that subsequent general provisions do not of themselves by mere implication abrogate prior special provisions. There were two phases of this contention—

(1) The term "boundary waters" does not include the waters mentioned in Article VII of the Ashburton Treaty, and consequently the Commission has no jurisdiction to deal with navigation in the South Channel; and

(2) If the term "boundary waters" does include the south channel it is included with the feature of inviolability attached to it (which they assumed the Ashburton Treaty created); and the Commission must respect this inviolability, consequently the applicant's case must fail.

The contention in its first phase cannot in my judgment be supported. There is nothing, expressed or implied, in the context of the Treaty of 1909 which can be construed as cutting down the plain words of its definition of boundary waters, while the adoption of such a contention would lead to inconsistency and absurdity. In the south channel, for instance, there is a potential 42,000 undeveloped horse-power. The provision of the Treaty of 1909 for the equal apportionment of the uses of boundary waters between the United States and Canada applies to



boundary waters only. If the south channel is not a boundary water, Canada is, therefore, not entitled to any share whatever of its undeveloped power.

The contention in its second phase presents, however, a difficult question for solution. Owing to the want of notice of this contention to the United States and applicant's counsel previous to the hearing at Montreal, these gentlemen were unprepared to answer it, and consequently did not afford the Commission that valuable assistance they would have rendered under other circumstances. The Commission feels that this point should be the subject of further argument.

I may state the considerations which weigh with myself in favour of further argument:

In arriving at a decision as to this contention, the Treaty of 1909 must be considered in view of the facts and circumstances which led up to and existed at the time the Ashburton Treaty (1842) was entered into, and the facts and circumstances which led up to and existed at the time the Treaty of 1909 was adopted. At the date of the Ashburton Treaty all commerce along the St. Lawrence was by way of the north channel and the south channel. Both countries, as I have mentioned, had the right of navigation in the north channel; but Canada had no right of navigation in the south channel. As early as 1816 the question of the construction of what is now known as the Cornwall canal came before the legislature of Upper Canada. In 1826 the Governor of the province submitted Clowes' Report on a scheme of canal development. In 1833 a Commission was appointed to construct the canal, and the work began in 1834. Work was suspended on account of the rebellion, and was not resumed before 1842, when the Ashburton Treaty was entered into.

In view of the turbulence of the waters of the Long Sault rapids and the less volume and turbulence of the south channel, Canada, as appears by the correspondence between Lord Ashburton and Mr. Webster, anxiously desired to secure the right of navigation in the south channel. Undoubtedly this desire was on account of the delay and uncertainty attending the construction of the canal.

Before the adoption of the Treaty of 1909 the old system of transportation along the river, at the Long Sault especially, had almost entirely changed. The construction of the Grand Trunk railway and the Cornwall canal on the Canadian side, and the construction of the Grand Trunk and New York Central railways on the United States side of the river, had led to an enormous decrease of navigation. What was once a substantial commerce on the south channel had shrunk to the veriest triviality, and the only existing navigation of the Long Sault section of the river was by way of the north channel. In 1909 the south channel was, and it ever since

has been, and probably it forever will be, unnecessary for purposes of navigation, and the north channel is ample and better suited to the requirements of what navigation exists or is likely to exist on the river. Did or did not the High Contracting Parties negotiate and agree in 1909, in view of the then existing condition of affairs, or of the condition existing in 1842 when the Ashburton Treaty was adopted? And did or did not they intend to perpetuate in the south channel a technical or theoretical right of navigation which had fallen into almost complete desuetude?

Since the right of navigation provided by Article VII of the Ashburton Treaty in the South Channel has fallen completely into disuse, and there is no human probability of there being any revival of its user, should or should not the right be treated as having lapsed?

Is it or is it not likely that four, or at the most five channels, of the thousand channels or upwards in the boundary portion of the St. Lawrence river, should without any apparent reason retain a special status of inviolability?

By making subject to certain rules and regulations the right of navigation provided for in Article I of the Treaty of 1909, does or does not that treaty supersede the right expressed in absolute terms in Article VII of the Ashburton Treaty?

In the case of *La Republique Francaise vs. Schultz* (1893) 57, Federal Reports (U.S.) page 37, it was held that the treaty between the United States and France of April 16, 1869, was impliedly repealed by the Industrial Property Treaty of 1883, since the latter treaty covered the whole subject matter of the former. On the same principle, might not Article I of the Treaty of 1909 impliedly repeal Article VII of the Ashburton Treaty?

On these and other questions subsidiary to the principal question No. (1) some argument should be addressed to the Commission. In view of the probability that they will be argued later I will at present refrain from expressing my opinion upon them or upon the principal question (1).

To pass to question (2):

Assuming that Article I of the Treaty of 1909 supersedes or rescinds by implication Article VII of the Ashburton Treaty, has the Commission power to approve of the proposed weir?

Article VIII of the treaty provides that the Commission may in its discretion make its approval in any case conditional upon the construction of remedial or protective works, to compensate as far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision approved by the Commission be made for the protection and indemnity against injury of any interests on either side of the boundary. In cases involving the alteration of the natural

level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing across the boundary, the Commission shall require as a condition of its approval thereof, that suitable and adequate provision, approved of by it, be made for the protection and indemnity of all interests on the other side of the line, which may be injured thereby.

There can be no question, therefore, as to the power of the Commission to approve of the proposed weir provided ample facilities are afforded in it for the accommodation of navigation.

The applicant, however, does not propose to provide any navigation facilities in the weir. This fact does not in my opinion create any insuperable difficulty in the way of granting approval of the weir on proper terms and conditions.

If the right to navigate the south channel is not a separate independent right, the only absolute right of navigation Canada has in the Long Sault portion of the St. Lawrence is the right of passage through it in some reasonable way and in a reasonable place. The fact that Long Sault island divides the waters into two channels is immaterial.

In view of the principles acted upon in *Pennsylvania vs. Wheeling Railway Company* before referred to, and of the principles which in my opinion govern the right of navigation, closing up entirely the south channel and compelling any person navigating the river to resort to the north channel, would, under the assumption that Article VII of the Ashburton Treaty is superseded, be perfectly legitimate providing doing so would not be an unreasonable interference with the right of navigation.

Passing to question 3—

Assuming that Article VII of the Ashburton Treaty is not superseded or rescinded by Article I of the Treaty of 1909, and that Canada has an absolute right of passage in the south channel, has the Commission power to approve of the proposed weir?

If reasonable facilities were afforded in the weir for the passage of ships, etc., this question is already answered; but if the weir would absolutely prevent navigation in the channel, a very difficult problem is presented. In the solution of the problem it must be borne in mind that the north channel, which is ample for all purposes of navigation (if any) for which the south channel could be required (if required at all), would remain absolutely free, open and unobstructed. The problem does not, therefore, involve the closing of all navigation in the river. It really resolves itself into this question:

Has the Commission, by virtue of its jurisdiction over "uses, diversions and obstructions," and to adjust the different classes of uses of boundary



waters, power to close the south channel entirely and compel any (should there be any) who might desire to use it to resort to the north channel?

To obtain a clear comprehension of this problem it is necessary to consider the language of the following provisions of Article VIII of the Treaty of 1909:—

“The International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which, under Articles III and IV of this treaty, the approval of this Commission is required, and in passing upon such cases the Commission shall be governed by the following rules or principles which are adopted by the High Contracting Parties for this purpose:

“The High Contracting Parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters.

“The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:

“(1) Uses for domestic and sanitary purposes;

“(2) Uses for navigation, including the service of canals for the purposes of navigation;

“(3) Uses for power and for irrigation purposes.

“The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.”

The uses, obstructions and diversions mentioned in Article VIII are those on one side of the boundary line which affect the natural level or flow of boundary waters on the other side. The proposed submerged weir would have this effect.

It is necessary to weigh carefully the language of these provisions. They deal with uses—practical matters—not with legal rights, treaty or otherwise, in boundary waters. As a necessary consequence of dealing with *uses*, rights must be more or less affected; but this is an incidental result, and not a primary object of the treaty in dealing with *uses*.

Navigation rights exist in all navigable boundary waters, some by virtue of sovereignty, some by virtue of the Treaty of 1909, and some (it is assumed for the purpose of discussing question 3) by virtue of the Ashburton Treaty. The most searching analysis, however, of the language of these provisions or of their context, would fail to detect anything from which an inference might be drawn that the ownership or origin of navigation rights qualifies or limits the power of the Commission in dealing with navigation uses.

It is immaterial by whom or in what way these rights are held: the Commission controls the uses of the waters in which they exist, and these



rights, irrespective of origin or ownership, are subject to its control. Of course this control must not be exercised arbitrarily, but in accordance with the requirements of the treaty.

Is Article VII of the Ashburton Treaty a factor in the problem at all? Is not the vital question this—will the proposed weir materially interfere with substantial navigation uses, present or future, and not—will the weir be an infringement of any right of navigation, conferred by the Ashburton Treaty or otherwise?

Must not the “other use” which is given preference or protection be a substantial use actually existing or within the range of reasonable contemplation? After the Ashburton Treaty was adopted steamers during the summer time ran down the south channel more or less frequently, and for a time rafts, joints, or cribs of timber also passed down it; but notwithstanding the immense increase of population, industry and commerce along the St. Lawrence, the navigation of this channel, on account of its essential and radical unfitness for the requirements of modern civilization, has waned to a practical nonentity. Three or four pleasure trips down stream in motor boats annually during the last ten years appear to be the only navigation during that time. The uses in the future, so far as ordinary human intelligence can foresee, will not, if the channel remain as it is, exceed that of the last decade. Is this “use” in the south channel so substantial that it should be protected from interference, or should it on the principle of *de minimis* be treated as negligible?

The Commission appointed by the two High Contracting Parties is the only tribunal that can authoritatively answer these questions. Some of them were mentioned at the hearing; but none were discussed as fully as the ends of justice require. Feeling that they should be argued exhaustively before a conclusion with regard to them is arrived at, I refrain from committing myself to any final opinion upon them.

Under ordinary circumstances the Commission should arrive at a final decision in respect to the objections raised by counsel for Canada before making any order of approval, and that decision should be made only after full argument of all the points involved in the case. As the weir is only one of three works which form parts of the one scheme, on which as a whole the Commission should in my judgment pass, no final order should be made unless the application is amended or a supplementary application made which would include the boom and the excavation of Dodges shoal. In view, however, of the great and immediate necessity of producing aluminum for the purposes of the United States and the Allies in the present war, and of the fact that unless the weir is put in by the middle of December of the present year this necessity cannot possibly be met, and of the further fact that the United States Government has

earnestly requested the Commission to grant its approval of the weir at once, to enable the work of construction to be begun as soon as possible and completed before that date, I agree with the other members of the Commission that as an interim measure the Commission should approve of the erection of the weir and of its maintenance for a limited period, without prejudice to the rights of any person and without trammeling its freedom of judgment as to what final order it should hereafter make.

The granting of this interim order, in view of the fact that the Commission expresses no opinion on questions 1 and 3, may by some be regarded as illogical; but inasmuch as the Commission has power of its own motion, to impose as a condition of approval of the weir, that it be provided with an adequate lock for the accommodation of navigation, with accompanying necessary remedial works, such an objection cannot be well taken, inasmuch as the weir, while raising the level of the water above, need not diminish to too great an extent the flow down stream. By navigation is meant navigation practicable under the conditions existing in the channel before the applicants began the excavation of Dodges shoal.

It may not be entirely irrelevant to refer to some misconceptions existing in Canada as to the nature of this application and of the objects sought to be compassed by it. Unfortunately the company, without any approval of the Commission, undertook to excavate Dodges shoal and thus deepen the entrance to the south channel, which would permit the flow, unless guarded against, of a larger supply of water to the power plant at Massena. This action was certainly in contravention of the treaty. The fact that the applicant was thus afforded an opportunity to increase its consumption of water aroused suspicions on both sides of the boundary line as to its integrity. The reasons put forward were regarded as mere pretexts. After the explanation given at the hearing, I am convinced that the applicant's failure to apply to the Commission for approval of this excavation was not in consequence of any improper motive.

The prevalence of these suspicions, however well founded, should not prevent the Commission granting approval of the proposed weir, if it is a meritorious work. The applicant has diverted the waters of the south channel through its power canal for a large number of years; under Article III of the Treaty of 1909 it has the right to continue this diversion to the extent enjoyed at the date of the treaty; and the Commission has no power to take away this right. The company's avowed object, however, is not to abstract more water, but to make more efficient the water already diverted. Assuming that the approval by the Commission of the application would give the power company the opportunity to take an additional quantity of water, and that this opportunity would be taken advantage of, the additional withdrawal, apart from possibly doing some injury to the

Cornwall canal, would not be a sin against Canada, but a sin against the United States.

The latter country is entitled by Article VIII to the use for power and other purposes mentioned in the treaty, of one-half of the water passing down the boundary portion of the St. Lawrence, and this half, in the Long Sault section, greatly exceeds the quantity of water which passes down the south channel, consequently if that country made use for power purposes of all the waters of this channel, it would be entirely within its rights provided the use were approved of by the Commission. The water so used, however (and herein lies the safeguard of Canada's rights, a safeguard of which people generally seem unaware), would be charged by the Commission against the United States and taken into account in the equal division to be made between the two countries, of the total water of the river. The injury, if injury be possible, resulting to navigation from the construction of the proposed weir, would affect the United States quite as much as it would Canada, and the prevention of the use by that country of the waters of the south channel for power purposes, would necessarily result in as great an injury to Canada as to the United States. Canada opposes piecemeal development, as it is called, of the power of the Sault section of the river, and strongly favours the adoption of a vast scheme of complete development by the two countries jointly of the undeveloped powers of the whole boundary portion. For years the water of the boundary portion of the river has been going to waste, the two countries being deprived of millions of dollars annually—through the loss of power. The saving of this loss in these trying war times, when fuel is so scarce and expensive, would be of untold advantage to both countries. The most effective method of this development is a question for hydraulic engineers, and if the result of an exhaustive study of the problem would clearly show that this scheme is the most meritorious, it is fair to assume that the United States would be only too willing to adopt it.

In fact a few years ago that country proposed to Canada that the question of power development in the whole St. Lawrence river be left to the Commission. If this is done any consensus of scientific opinion will certainly receive the most respectful consideration at the hands of the Commission and will probably be acted upon.

Counsel for the State of New York, without taking any stand in regard to the Ashburton Treaty, joined counsel for Canada in protesting against the exploitation, in whole or in part, of these great international resources by private persons and corporations for speculative purposes. The Commission can fairly be trusted to safeguard the interests of the two peoples against commercial vampires.

Fears were entertained in the city of Montreal that compliance with the application would injure its harbour. Inasmuch as any waters diverted



from the Sault section by the south channel or the power canal, would be returned to the river a few miles further down stream, the harbour of Montreal could not possibly be affected either beneficially or injuriously. Mr. Meredith, K.C., counsel for the Harbour Commissioners, very properly stated at the hearing that he could not see how the interests of his client could be prejudiced by the granting of the approval asked for. Mr. King, K.C., counsel for the Dominion Marine Association, took the ground that the association might be injured by the effect which the diversion of river ice through the Big Sny might have on the Cornwall canal. The evidence given was very meagre on this point, and further information must be obtained in order to afford protection, if any is required, to the canal. The protection of the canal is also a matter in which the United States apart from the cost of maintenance, is as vitally interested as is Canada, the use of it being given that country by the second paragraph of Article I of the Treaty of 1909.

The right of navigation is not claimed by Canada as one of commercial importance. From that standpoint it is so spectral that one can scarcely say which is the more striking, the ingenuity of the person who would conceive such a claim or the lack of humour in the man who would seriously advance it.

Canada's protest rests on higher ground. It is the assertion of a principle—the sacred character of international compacts. Both countries respect the supreme sanctity of treaties, and the constitution of the United States provides that a treaty shall be the highest law of the land. Whether this principle is or is not a factor in passing upon the present application, is a question on which the Canadian Government takes one view and the United States Government takes another. The Commission must sooner or later answer this question, and in doing so it must act in accordance with the sacred trust reposed in it.

The action of the Commission in this application has been the subject of considerable adverse comment in the public newspapers, especially of Canada. This criticism is based upon an erroneous view of the facts connected with the application, and an apparent misconception of the character and duties of the Commission. Outside of settlement by reference to the Hague Tribunal, the well recognized methods of adjusting international difficulties have been war, diplomacy and arbitration. The International Joint Commission is a new experiment. In respect to any dispute growing out of the uses, obstructions or diversions of boundary waters, either the United States or Canada can invoke its jurisdiction, and have the dispute decided, so far as the Commission is able so to decide it, in accordance with the principles of law and justice. This decision is binding upon the other party.



Probably no two other peoples in the world could have achieved such a feat of Christian statesmanship. It is no exaggeration to say that it is one of the grandest thrusts made by civilization into the entrenchments of barbarism, one of the most splendid triumphs of law-and-justice-abiding instincts, over those of militarism and aggression which, in the arena of international dispute, mark the progress of mankind—a worthy implementing of that compact at Ghent whereby Great Britain and the United States, sick of the folly of their fratricidal feud, its blood and its carnage, clasped hands and solemnly pledged each other that “there shall be a firm and universal peace between His Britannic Majesty and the United States, and between their respective countries, territories, cities, towns and people, of every degree, without exception of places or persons.”

This achievement was only rendered possible by the mutual respect and confidence which each country had for and in the other.

The generous assistance of the intelligent press can aid very greatly in the accomplishment of the object for which the Commission was constituted. The moral sentiment of both countries desires that the treaty shall be administered in the same broad spirit of noble purpose in which it was adopted and conceived. This shall be the endeavour of the Commission, free from the bias of patriotism, and unswerved by popular clamour.

Since writing the above I have had the pleasure of reading the Opinion of my fellow commissioner, Mr. Mignault, with which I fully agree. The fact that he has not discussed the legal phases of the question before the Commission as fully as I have done is the only reason for submitting my opinion.

Opinion by Mr. Powell.







(Frontispiece.)

South Sault Channel.



# HEARINGS



# INTERNATIONAL JOINT COMMISSION.

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ATLANTIC CITY, N.J.,

AUGUST 12, 1918.

**IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER NEAR THE MOUTH OF ITS POWER CANAL AT MASSENA, NEW YORK.**

Present: Obadiah Gardner (presiding); Charles A. Magrath, James A. Tawney, Henry A. Powell, K.C., R. B. Glenn, P. B. Mignault, K.C. Whitehead Kluttz and Lawrence J. Burpee, secretaries.

The meeting at Atlantic City was called for the purpose of considering the application of the New York and Ontario Power Company for approval of its plans for the construction of works in the St. Lawrence river in the vicinity of Waddington-on-the-St. Lawrence, New York.

Shortly after the meeting was called to order, Mr. George W. Koonce, of counsel for and on behalf of the Government of the United States, asked that the Commission suspend for the moment its consideration of the application of the New York and Ontario Power Company, in order that he might present a motion for the suspension of Rules 9, 10, 11, 12 and 13 of the Rules of Procedure, in connection with the application of the St. Lawrence River Power Company for approval of its proposed construction of certain works in the St. Lawrence river, and have the Commission grant a hearing thereon at its session in Atlantic City.

The following appearances were entered:

Mr. George B. Gordon, Pittsburgh, representing the Applicant;  
Mr. Leighton McCarthy, K.C., Toronto, representing the Applicant;  
Mr. Arthur V. Davis, Pittsburgh, President of the Aluminum Company of America;  
Mr. James W. Riekey, Pittsburgh, Chief Hydrographic Engineer for the Aluminum Company of America;

Mr. George W. Koonce, Washington, representing the United States Government;

Mr. John C. Churchill, Washington, representing the Corps of Engineers, United States Army;

Mr. Frank H. Keefer, K.C., M.P., Ottawa, representing the Dominion of Canada;

Mr. William J. Stewart, Ottawa, Chief Hydrographer of the Dominion of Canada;

Mr. Arthur V. White, Toronto, representing the Commission of Conservation of Canada;

Mr. Francis King, K.C., Kingston, Ontario, representing the Dominion Marine Association.

Mr. TAWNEY: Gentlemen, the chairman having been called from the room temporarily, he has requested me to proceed during his absence. It was intimated this morning that Mr. Koonce, who represents the Corps of Engineers of the Government of the United States, desires, before we proceed to the hearing of the application of the New York and Ontario Power Company, to present a motion to the Commission in another matter. Mr. Koonce, if you wish to present that motion now, the Commission will hear you.

Mr. KOONCE: Mr. Chairman, I have just had a conference with Mr. Keefer, Counsel for the Dominion Government, and the motion that I wanted to make and which I imagined would pass without comment at all and with his consent, he said he would look over.

Mr. KEEFER: I have no objection to your making the motion, but I cannot say that I consent to the Commission granting it. I would like to hear what you have to say. If it requires my consent to make the motion, I give it, but not for the granting of the motion.

Mr. KOONCE: If you consent to the motion, then it would be unnecessary to take up the time of the Commission in any discussion of the matter at present. The motion that I propose to make is simply that the Commission suspend Rule 9 of its Rules of Procedure requiring notice of publication in the case of the application of the St. Lawrence River Power Company for certain construction work in the St. Lawrence river near Massena, N.Y.

Mr. TAWNEY: Are you making the motion on behalf of both the Government of the United States and the St. Lawrence River Power Company?

Mr. KOONCE: I do not appear for the St. Lawrence River Power Company. The reason for the motion is this: the work that it is proposed to put in there is intended to augment the output of aluminum. The St. Lawrence River Power Company, or the Aluminum Company of America, has an aluminum plant at Massena, N.Y. You have the map there attached to the application. I suppose you desire me to give you some little historical sketch or description of this thing so you will understand it?

Mr. TAWNEY: Yes.

Mr. KOONCE: At what is known as the Long Sault rapids in the St. Lawrence river, the river divides into what is known as the Long Sault channel and the South Sault channel, the latter being wholly within the territory of the United States. At the point where this power canal has been constructed there are two channels. What is known as the South



Sault channel, which is wholly within the territory of the United States, is the channel that we have under consideration.

Beginning in 1896 the St. Lawrence River Power Company cut a canal leading from this south channel of the St. Lawrence river down to the Grasse river at Massena, N.Y. By that means they got, as I understand it from studying the case, a difference in elevation between the St. Lawrence river and the Grasse river of about 35 or 40 feet; so that by cutting this canal down to the Grasse river they got practically the same fall, about the same amount of power, that they would get by going down to the foot of the Long Sault rapids. That canal was begun in about 1896, and this power plant was established and put in operation in 1902, a good many years before your Commission was created, and it has been in operation ever since.

This South Sault channel has a flow of 54,000 or 55,000 second-feet. The whole flow of the river at average stage is somewhere between 260,000 and 300,000 second-feet. They take through this canal about 27,000 second-feet.

Mr. MIGNAULT: About a quarter of the water of the whole river goes down that south channel, then?

Mr. KOONCE: Twenty per cent of the flow of the river goes through the south channel. Out of this 20 per cent they take 27,000 feet through this canal. They have been taking it for a great many years, and there has been no question of an interruption to navigation.

Mr. POWELL: That is about half of the flow of the south channel?

Mr. KOONCE: Yes. Every year this plant is compelled to reduce its output. I stated that the plant is engaged in the manufacture of aluminum, which, although one of the most universal and prolific things of nature, requires an immense amount of power to get it out. All clays, as I understand it, are silicate of aluminum. Consequently, you can find it almost anywhere. It is only in recent years that it has been developed so that it can be produced at an advantage.

At the head of this canal during nearly four months of the year the flow is obstructed and almost entirely stopped by reason of the ice jams that form above it. In order to get full twelve months' operation of the plant it is proposed to put in some construction works that are indicated on the maps and plans that you have there. There are three things to be done. One is the construction of an ice boom, which is of a movable type and will only be used during winter. It is of a boat-type, and is to be taken out when the ice is out of the river so that it need not be considered and was not considered at the department as having any effect on the regimen of the river. Whenever there is any navigation or use of the river this boom will be taken out. Then, they are also authorized to dredge a channel 150 feet wide and 25 feet deep over a shoal over which the water is very shallow, and which tends to obstruct the flow of ice and causes ice jams at this locality. Those are the two things that it is not considered that the Commission is interested in. They have no effect on the regimen of the river. The construction that is brought to your attention is that of an extension of the present deflecting dyke or jetty. This existing dyke there, which is 230 feet long and extends out from the New York shore, was authorized by the War Department on August 3, 1903. It is a solid structure built up at elevation 205 above mean sea-level. They propose to

extend that dyke by means of a submerged weir at an elevation of 200 feet, 5 feet less than the permanent structure there, across Long Sault island. By that they hope and believe that they will be able to get rid of the ice difficulty that they encounter every winter. Along about the latter part of December and lasting up until April these ice jams form there. The ice forms from the bottom of the river up and cuts off entirely the flow of the water into the power canal. As an example, while their output of aluminum is about 3,000,000 pounds a month, during the months of January, February and March of last year the average output was only about 800,000 pounds, or 28 per cent of the normal output, and during the month of February their output was only 11 per cent of normal.

The object of this construction is to do away with this ice difficulty and enable them to get the water down into the Massena power canal twelve months in the year so that they can run this aluminum plant with the highest efficiency possible, and turn out the greatest amount of aluminum, which the United States Government and all the Allied Governments now need for the purpose of this war.

Mr. TAWNEY: That is the interest of the United States in the matter?

Mr. KOONCE: That is all the interest we have in it. Conditions are such that we must have increased power in order to produce the munitions that are necessary to whip the Germans. Of course, you know that aluminum enters into a great many of the articles that are used in modern warfare. We have an immense aeroplane project, and vast amounts of aluminum are needed for that. We cannot get along without it. Our automobile motor trucks, all mess utensils, camp outfits, nearly everything that a soldier carries along with him, has to be made of aluminum, and the amount that is produced now is inadequate. This particular company, I understand, furnishes 60 per cent of the aluminum used by the Government of Great Britain in the present war. It furnishes France 33½ per cent of its supply, Italy 75 per cent, and the United States Government all that it uses. But it does not produce enough, and the object of this improvement is to get them in a position where they can produce aluminum twelve months in the year at the highest output.

Mr. TAWNEY: Have you any communications from any of the departments of the Government of the United States showing the necessity for prompt action in this matter?

Mr. KOONCE: I have a letter here from the Secretary of War to the Secretary of State, transmitting this application of the St. Lawrence River Power Company to your Commission.

Mr. TAWNEY: I would say, for the information of the members of the Commission, that there is on file in our office a letter from the Chairman of the War Industries Board, Mr. Baruch, and also a letter from the Acting Director of Aircraft Production, Mr. Kellogg. I do not know whether there are any more or not.

Mr. KOONCE: I will simply say that I am expressly here by direction of General Keller, of the War Board. He has control over the distribution of power to the various industries. There have been a great many questions that have been very puzzling and very embarrassing in connection with water-power. There are so many things that must be produced by water-power because we have not the coal with which to produce them.

The water-power plants are in a poor condition. Owing to the high cost of labour and material, the owners of these plants are unable to finance improvements, and the Government has had to take under consideration that question for the purpose of increasing the output of these munition plants. In this particular case the company is willing to make the construction and produce this additional amount of aluminum.

Mr. TAWNEY: What additional amount will they produce?

Mr. KOONCE: It is estimated that the removal of these ice difficulties will produce somewhere between 6,000,000 and 7,000,000 pounds. This is not an increase in the withdrawal of water at all. I do not know whether I stated that before or not. It is not for the purpose of getting an increase in the amount of water withdrawn but it is simply to remove the difficulties so that this water that they do get can be used more efficiently.

Mr. TAWNEY: Then, it is not to increase the power capacity of the plant, but the dependable power that you can have for the production of aluminum throughout the year?

Mr. KOONCE: That is all, sir. And by a more efficient use of that water they expect possibly 5,000,000 pounds additional, say somewhere between 12,000,000 and 15,000,000 pounds more aluminum than they are getting now.

Mr. TAWNEY: How will that increase compare with the total production now? What percentage will that be of the present total production?

Mr. KOONCE: It will be something like 35 or 40 per cent increase.

Mr. TAWNEY: So the increase in production would be very material?

Mr. KOONCE: It would be very material at this particular place, and we expect to have an increased production at various other plants throughout the United States.

Mr. GLENN: What effect will it have on navigation?

Mr. KOONCE: It will have no effect on navigation. Of course, this submerged weir will cross the South Sault channel, but our statistics show that there has been no navigation through that channel for years. In old days, when there was a good deal of timber in that section of the country, they rafted their timber through here (indicating on the map) because the rapids were less violent than over there in the main channel; but, as far as my reading of the reports show, I do not think that there is any rafting of timber through there, nor has there been in a good many years. Occasionally a few motor boats and row boats, merely pleasure craft go through there, being attracted by the excitement caused by the whirl of the water and the danger that men usually like to take because there is excitement connected with it.

Mr. TAWNEY: What I was interested in knowing particularly was the purpose of this motion.

Mr. KOONCE: The engineers will demonstrate what effect this is going to have. I am not an engineer. In a general way our office has worked out the computations. They say that at an average stage of water the effect of this construction here will be to raise the water in the main channel at the foot of lock 21 of the Cornwall canal about 4 inches, and as the lock wall is 1 foot 6 inches above the level of the river, that rise will not affect it at all. At certain stages of the water this raise of 4 inches would be a decided benefit to the canal. In other stages the effect would be nil. At no stage of the water would it be injurious. That is as far as



we have worked the matter out, but, of course, the engineers can explain those things. The object of getting this motion before you is to secure an opportunity of presenting the matter to you.

Mr. POWELL: In what way, Mr. Koonce, does that solve the problem connected with the ice? How does it improve the situation with respect to the jamming of ice?

Mr. KOONCE: As a general proposition, I understand that this is the theory: That the ice comes down the river and being deflected by strong westerly winds grounds in this south channel and banks up as a solid mass from the bottom to the top, shutting off entirely the water from the power canal. By this construction they hope to create a condition there that will enable the surface of the water to be frozen over. That will freeze over, and instead of having a solid mass of ice from the bottom up, you will simply have a sheet of ice on the top, and the water will continue to flow underneath. This ice boom and the channel assist in throwing the ice down the main channel of the river.

Mr. POWELL: And then, again, I presume if you raise the water with a submerged weir you drown out, to a certain extent, the rapids, and consequently there is a less furious flow of ice down there than would otherwise take place?

Mr. KOONCE: Yes; I think you have the right idea of that.

Mr. TAWNEY: The Secretary of War has granted a permit for this improvement, has he?

Mr. KOONCE: Yes; the Secretary of War has granted a permit for this, subject to the approval of the International Joint Commission.

Mr. POWELL: This matter is affected by the Webster-Ashburton Treaty. Both those two channels are mentioned in the treaty.

Mr. KOONCE: Yes; but if you will read that treaty very closely, Mr. Powell, you will see that the significance of that treaty is very clear, when you take into consideration the word "equally." Article VII of that treaty says that these various channels shall be equally free and open to both parties. Now, that to my mind means that there will be no discrimination in the use of any of those channels, that whatever use the one nation has the other nation shall have. In other words, I do not think that there is anything in the Webster-Ashburton Treaty which would require you to maintain anything on your side of the line or us to maintain anything on our side of the line perpetually free and open; but if you construct a canal there on your side of the line you allow us to use it on the same terms which you allow your own people to use it.

Mr. POWELL: If you will read a later clause in that treaty you will see that they go further. The drafters of that treaty went further and said that either country shall be at liberty to make any laws regulating the management of the water where it flows exclusively through the territory of that country, provided there is no discrimination in its application to the citizens of the other country.

Mr. KOONCE: That carries out the same idea I had. It is a question of no discrimination.

Mr. POWELL: Yes; but in the clause in which they refer to discrimination they go further than the language which you use.

Mr. TAWNEY: That is rather foreign to the motion he made here.



Mr. KOONCE: But another thing, Mr. Powell, as I intimated, the Treaty of 1909 supersedes the Webster-Ashburton Treaty and all other treaties so far as water boundaries are concerned. The object of that treaty of 1909 was to confer on your Commission the power to adjust all these differences and to regulate all these things on the common frontier. Now, all those provisions of the Webster-Ashburton Treaty and the Treaty of 1871 are in effect, but, so far as the boundary between the United States and Canada is concerned you have power and authority delegated to you by this treaty to deal with such waters and approve or disapprove them in your discretion.

Mr. POWELL: Where does the international boundary line run there?

Mr. KOONCE: It is far up north, in the main channel.

Mr. POWELL: It follows the central line of the main channel?

Mr. KOONCE: Yes.

Mr. MIGNAULT: Does it run north of Barnhart island?

Mr. KOONCE: It does down between Barnhart and Sheek islands. There is a little channel that runs up above there, as I understand it, called Little channel.

Mr. TAWNEY: When was this application first made to the War Department, Mr. Koonce?

Mr. KOONCE: This application was made in September, 1917.

Mr. MIGNAULT: It was granted in October, 1917?

Mr. KOONCE: Yes.

Mr. TAWNEY: And the permit was granted when?

Mr. KOONCE: September 10, 1917.

Mr. TAWNEY: Was the permit of the Secretary of War granted in September?

Mr. KOONCE: Yes; in September.

Mr. TAWNEY: Why was there a delay in the presentation of the application to the commissioners?

Mr. KOONCE: One reason for the delay was this: there were three things that were to be done. There were the construction of this ice boom and the digging of this channel. The digging of this channel took the longest time to accomplish. It was the biggest part of the work. This construction that is under consideration now simply means the dumping of stone along a certain line and can be accomplished within sixty or ninety days, but the dredging took several months.

Mr. TAWNEY: Do I understand you to say that a part of this work has already been done?

Mr. KOONCE: Yes. That channel has been dredged and the boom is ready to be constructed, as I understand it.

Mr. KEEFER: Do I understand you to say that that part of the work does not require the approval of either Canada or the International Joint Commission?

Mr. KOONCE: That is correct. This submerged weir, while we do not think it is going to affect the levels of the waters on the Canadian side of the line or injuriously affect Canadian interests in any way, yet out of respect for the Commission and out of respect for treaty obligations we concluded it was our duty to resolve the doubt in favour of submitting it to you. That is the reason we put that condition in there that it should be subject to your approval.

Mr. TAWNEY: And the work which is described in the application here is only part of the work that is contemplated in this improvement.

Mr. KOONCE: Yes; that is only one of the difficulties.

Mr. GARDNER: In what portion of the river has this dredging been done?

Mr. KOONCE: It is shown on the map there. There is a shoal there covered with about four or five feet of water, and that being so shallow it accentuates ice jams.

Mr. MIGNAULT: Mr. Koonce, have you any idea how long it would take to construct the submerged weir?

Mr. KOONCE: I think somewhere between sixty and ninety days.

Mr. KEEFER: Judge Koonce, the consent of the War Department was given to the three things, was it not? That is, the prevention of ice jams by the construction of the boom, the deepening of the channel, and the submerged weir. Those three things were included in that consent and all made subject to the approval of the Commission?

Mr. KOONCE: No. Authority for the dredging of the channel and the construction of this ice boom was given in a separate permit. This permit covers only the submerged weir. The War Department itself separated them. The company asked for three things, but we separated them. That is one of the causes of delay in getting in this application. They carried out the details of the first permit and expected to submit this application some time about the first of June so as to give two or three months to act on it, but through the fact that they were not well advised as to your proceedings and requirements, when they came to make the application they got it all ready and discovered that they had to have it printed in conformity with your rules. They put the thing over for another thirty or forty days, so that they did not get this application in to the Secretary of State until July 25. Before this application was made General Keller called my attention to the fact that the application would be made in a few days, and directed me to get into communication with Mr. Kluttz, the secretary of the Commission, and see if we could not arrange for a hearing.

Mr. GLENN: Did you not say that that weir would raise the water only four or five inches, and that it would help navigation?

Mr. KOONCE: Yes; I think the company will show you that it will help the canal. At certain stages it will raise four inches, which will be a benefit.

Mr. TAWNEY: You were about to explain the cause of the delay in submitting the application.

Mr. KOONCE: I went to see Mr. Kluttz at the time and got him to communicate with Senator Gardner about the matter. We knew that it would not do to wait until October 1, the time of your regular annual meeting, and we did not know that you were contemplating holding a meeting before that date. My object was to get you to call a meeting for the special purpose of considering this application. After a day or two Mr. Kluttz informed me that you had decided to hold a meeting in Atlantic City on August 5. We then informed this company that they should get their application in in time for you to consider it at this meeting. I took the trouble of taking this letter from the Secretary of War to the Secretary of State and asked them to expedite it and get it over to you as soon as possible. This letter was dated July 30, and I was promised at the State

Department that they would get it to you the same day. It seems that they did write a letter on July 31, submitting the matter to you, and sent it to the mailing clerk, and it got lost in transit and did not reach your office in Washington until last Friday morning. That is the reason you have not seen it. You would have had it a week ago had it not been for this slip-up in the mails.

Mr. MIGNAULT: Still there was no reason why you could not have made this application earlier to the Commission.

Mr. KOONCE: You know, Mr. Mignault, from your experience in the St. Croix Dam case and others, that even the best lawyers do not know just exactly what to do when they come to deal with the International Joint Commission.

Mr. TAWNEY: You do not mean to insinuate that that is the fault of the Commission, do you?

Mr. KOONCE: No, I do not mean to insinuate that the gentlemen are not learned in the law and all that, but there are so many laws, there are so many various activities and everything of that kind, and a lawyer has to be on his toes all the time to keep up with them.

Mr. MIGNAULT: This order was granted last September, subject to the condition of obtaining the approval of the Commission.

Mr. KOONCE: These gentlemen thought that all they had to do was to go before the Commission and show this permit and go to work, but for this other work that they have to do that is going to cost so much money and require so much time they would secure the approval of the Commission.

Mr. TAWNEY: I presume that that is due to the name of this tribunal rather than anything else. As a matter of fact, this is not a commission but an international court.

Mr. KOONCE: When your Commission has been in operation long enough—you see you are quite young, you are only about eight years old—people generally will understand.

Mr. MAGRATH: Mr. Koonce, will you tell me what authority the Aluminum company has for the diversion of water from the St. Lawrence river, and what amount it has authority to divert?

Mr. KOONCE: That authority was originally granted by the State of New York. This project had its inception in the fact that an engineer one day was rowing up the Grasse river. The Grasse river flows parallel with the St. Lawrence, and although it flows parallel for eleven miles and empties into the St. Lawrence at Cornwall—

Mr. MAGRATH: I am not questioning the authority at all.

Mr. KOONCE: I am just going back to the beginning. He found there was a difference in elevation of 40 feet. That suggested bringing water down to the Grasse river. The State of New York authorized the cutting of this canal. At the same time they applied to the War Department, in 1896, for the authority and consent of that department to make this diversion. It was investigated by our engineers at that time, and they decided it did not affect navigation in any way, and that there was no law at that time under which the War Department could grant any permit. The War Department simply advised the company that if they were careful not to take enough water from the river to interfere with its navigable capacity,



no objection would be made to its construction. So it existed through authority of the State of New York, and afterward by tacit consent of the War Department, as something that did not affect navigation.

Mr. MAGRATH: And it is not confined to any particular water that it may divert?

Mr. KOONCE: No.

Mr. MAGRATH: You say since last October they have been dredging in the south channel at Dodges shoal?

Mr. KOONCE: Yes.

Mr. MAGRATH: For what purpose did they do that?

Mr. KOONCE: To get rid of that shallow shoal.

Mr. MAGRATH: And incidentally draw more water?

Mr. KOONCE: No; that does not give them any more water.

Mr. MAGRATH: Does not that bring more water down there?

Mr. KOONCE: No. The dredging of the shoal would be one of the assistants in preventing this ice jamming.

Mr. MAGRATH: Then, I understand that this application does not take more water from the St. Lawrence river, and that they would not take more water through the construction of this structure during the summer months, but it will enable them to get a normal supply in the winter months on account of the improved ice conditions. Is that it?

Mr. KOONCE: That is the idea; yes, sir. It will simply enable them to work twelve months in the year instead of nine months.

Mr. MAGRATH: But they will take more water.

Mr. KOONCE: No; they do not need any more. They have all the water that they want.

Mr. GARDNER: They will take more water in the aggregate in the year, but not any more at any one time?

Mr. KOONCE: Yes. Of course, the water in the winter time is wasted.

Mr. TAWNEY: Mr. Koonce, your motion, which is made orally and informally, as I understand it, is this: That the Commission suspend the Rules requiring notice of the filing of the application to the public, and thirty days within which the other Government or any interested parties may file its statement in response, and that the Commission proceed as soon as possible after hearing the case now before it to the consideration and final determining of the application of the St. Lawrence River Power Company?

Mr. KOONCE: Yes. I do not ask you to approve their application. I am not here for that purpose at all. I simply ask you to hear it.

Mr. TAWNEY: As I understand you, the reason that the Government of the United States is making this motion through you is because of the necessity of increasing the production of aluminum needed in the manufacture of munitions and the carrying on and successful prosecution of the war?

Mr. KOONCE: We want to increase the output of aluminum for war purposes.

Mr. TAWNEY: That is the interest of the Government of the United States?

Mr. KOONCE: The interest that I am here to represent is to get you to assist these people, as far as you can consistently with your duties, to secure twelve months' operation at that plant.



Mr. MAGRATH: The department has satisfied itself that that is an essential method in order to get production; that this company cannot get power elsewhere?

Mr. KOONCE: Yes, sir.

Mr. MIGNAULT: Your motion involves the suspension of rules 9, 10, 11, 12 and 13, which concern the publication of notices, the delay for making reply statements, the response to reply statements, and the intervention by interested private parties. I would like to know for what reason you were prevented from making this application earlier, so that these notices might have been published and opportunity given to the other Government to consider your application.

Mr. KOONCE: I thought I explained that to you the best I could. Ignorance on the part of the applicants as to your methods of procedure was the first cause of delay. The fact that this involves three elements, and that they were busily engaged on carrying out two of the elements, in which you did not have any interest, and then at the time that they got ready to make the application they discovered that they should have these applications printed and maps made, which further delayed it, and then, finally, I could have gotten it to you ten days earlier than this except for the fact that it was delayed in the State Department, through a loss in the mails. It did not get to you until Friday.

Mr. GORDON: If you will pardon me, on behalf of the company I wanted to say—

Mr. TAWNEY: I think it would be best to first allow Mr. Koonce to make his statement. Then we will call upon the representatives of the power company to supplement what Mr. Koonce has to say.

Mr. KOONCE: Is there anything else?

Mr. POWELL: There is just one thing that strikes me as peculiar about it. Why did you not take this matter up with the Canadian Government and agree on it? You came here without notifying the Canadian Government.

Mr. KOONCE: I can answer that, Mr. Powell. The treaty between Great Britain and the United States provided for an International Joint Commission. Now, this International Joint Commission is composed of six able and discreet men as I know of in my acquaintance. They are able to pass on any proposition that may be brought before them. Inasmuch as these constructions are entirely within American territory, and have been authorized by the Government, the American Government being directly interested in every question that is affected by them, it seems to me that notice to the Canadian Government is unnecessary, because the Canadian Government is represented by this Commission. It is your duty to look after the interests of the Canadian Government as well as those of the American Government.

Mr. POWELL: That is true, but we have laid down a certain code of procedure. Now, while the two litigants in a matter of civil procedure can waive anything they see fit and the court will approve of it, yet it is necessary for these two litigants to agree upon the waiver. Otherwise, the court will stand by its own rules. In this particular matter we have been rapped very severely over the knuckles by Mr. Lansing and the State Department for a presumed departure from our rules—that we should stand by our guns. If the other side agrees to it I cannot see any objection

we can urge. But suppose they do not agree to it. Then must we not stand by our rules?

Mr. TAWNEY: I think, Mr. Powell, the best plan is to hear what the representatives of both sides have to say, and then we will take the matter under advisement.

Mr. POWELL: But this is before we get to the advisement. I wanted to know why it was not done.

Mr. TAWNEY: If the representatives of the St. Lawrence River Power Company have anything to offer we will hear them now.

Mr. GORDON: Mr. Chairman, there is only one thing that I wanted to say, and that was with reference to this matter of delay; why this application was not made sooner. I would rather put it, I think, in the other way, and tell you why the application is made now, and that is the war. These permits were granted last September by the War Department. The Aluminum Company expected to spend about fifteen months doing this dredging. This building of the weir was a short-time proposition, perhaps sixty days or so. The Aluminum Company of America did not expect to finish this work this fall. They did not expect to build this weir until next summer. Therefore, they did not make the application. We expected to make the application this fall and have a hearing this winter some time and go ahead and do the work next summer. The reason that we were doing it in that way was because that was the ordinary development of our business. With other extensions that they were making in other places that was their plan for doing the work. The present question arose. This application was made at the request of the Government of the United States. They had looked into the situation, and we found that the only way we could get 6,000,000 or 7,000,000 pounds more of aluminum this winter was to rush this job through and get this ice difficulty removed this fall. You will understand that this is not a thing that is going to increase the daily capacity of the Massena plant. It will not take any more water in one day, but here has been a situation where for three or three and a half months every winter we have been shut down. Unless this application is granted and granted very soon, it will be impossible for us to do this work before the river freezes up, and the Allies will be short six or seven million pounds of needed aluminum. It is the United States, and it is Great Britain, and it is France, and it is Italy that are going to get this aluminum. That is why the Government of the United States is here with its application, and that is why we made it this fall. It is because of the exigencies of the war. It was not that we delayed making the application. As I say, we were going to make it this fall and expected to do the work next year, but the anticipation of our work has been caused solely and only by the war, and we are rushing in to try and complete this work this fall at the request of the War Department of the United States.

Mr. MAGRATH: What is the capacity of your power canal in second-feet?

Mr. GORDON: About twenty-seven thousand second-feet. That runs the machinery to its full capacity. All we can do is to try to keep that machinery working continuously.

Mr. POWELL: Have you more power than you utilize there?

Mr. GORDON: Every single horse-power that we can now develop is now being used.

Mr. MAGRATH: What is your estimate of cost for this structure?

Mr. GORDON: About \$125,000.

Mr. TAWNEY: That applies to this one unit?

Mr. GORDON: Just to that portion of the improvement.

Mr. TAWNEY: If the representatives of the Dominion Government or any one else have anything to offer in opposition to the motion, we will hear them.

Mr. McCARTHY: As soon as the War Department of the United States indicated that they desired this application to be made, I was called into consultation. The application was prepared, and I immediately went with the engineer to Ottawa, and discussed the nature of the application with the chairman of the Canadian section, who has therefore known of it since the 1st of August, when a copy of the application, with the maps and plans, was shown to Mr. Stewart, the engineer representing the Dominion Government.

Mr. TAWNEY: Has there been any effort on the part of the company and the representatives of the United States Government to communicate with the Canadian representatives since coming here with a view of getting their consent to this proposed suspension of our Rules and immediate consideration of this application?

Mr. McCARTHY: Not that I am aware of. I have not had any such communication.

Mr. GLENN: Mr. McCarthy, with whom did you confer in Ottawa?

Mr. McCARTHY: I saw Mr. Magrath. Mr. Magrath referred me to Mr. Stewart. The plans were laid before Mr. Stewart, and I think the matter has been under consideration since that time.

Mr. TAWNEY: Perhaps I did not make myself clear in the question I asked in regard to the conference. I did not mean to ask whether you had conferred with the Canadian members of the Commission, but I meant the representatives of the Dominion Government or other interests outside of the Commission that are concerned in this matter; that is, since coming here to Atlantic City?

Mr. McCARTHY: No.

Mr. KOONCE: I have talked it over with Mr. Stewart and Mr. Keefer.

Mr. KEEFER: Mr. Koonce and I discussed the matter at about twelve o'clock to-day.

Mr. KOONCE: That was the first time I was able to do it.

Mr. TAWNEY: Let me ask this question, of both sides: Would it be probable that you could reach an agreement as to the time for the hearing of this application if you were to meet and confer on the facts for the purpose of satisfying yourselves whether or not the effect is as represented here by Mr. Koonce?

Mr. KEEFER: On behalf of the Dominion of Canada I might say, following what Mr. Koonce says, that if the most reputable and eminent lawyers are in doubt as to what to do when they appear before this International Joint Commission, I have greater difficulty still. I do not know what to do on an application like this when it is thrown upon my shoulders to take the responsibility. Naturally, you desire to receive your instructions from the Government you are representing. This motion is made to waive those rules and safeguards with which you have seen fit to surround your proceedings, and I would then be asked to take on my shoulders the responsibility of what should be done.



Mr. TAWNEY: Not necessarily, Mr. Keefer. I assumed that you could communicate with the departments of your Government that would be interested.

Mr. KEEFER: I might state that the Dominion of Canada is vitally interested in doing everything possible to win this war.

Mr. TAWNEY: Certainly; our interests are one.

Mr. KEEFER: They are one, and I might state, as I stated to Mr. Koonce, that if this application for this dam be at the instance of the United States, there will be no difficulty about it whatever; but, as I understand it, Mr. Koonce says, "I am not asking this Commission to approve of this matter; I am asking them to take it up immediately and deal with it."

Mr. TAWNEY: I do not think you understand him correctly.

Mr. KEEFER: Am I right in that, Mr. Koonce?

Mr. KOONCE: Not exactly. What I meant to say was that so far as the present motion is concerned I am not asking favourable consideration of this application at all. It is only a question of taking it up and determining by the evidence whether or not it is worthy of approval. We are perfectly confident that when you come to consider it you will approve it. I do not think that there is a shadow of doubt but what you will approve it. All I ask of you is to put yourselves in a position where you can determine it one way or the other.

Mr. GLENN: Mr. Keefer, did not Mr. Gordon say that the company did not intend to push it this fall, but that the Government of the United States came in and urged it?

Mr. KEEFER: That is what I understand. The Government of the United States is asking that this application be heard. If this is placing a dam across a branch of the St. Lawrence river which has been navigated by steamers in the past—

Mr. GLENN: Has it not already been stated that during the winter months they use it, but during the summer months they do not need it?

Mr. KEEFER: If that were all, Mr. Glenn, it would be very simple, but the difficulty is they are putting that dam in there and it is a permanent dam for winter and summer, and it absolutely stops navigation.

Mr. GLENN: He said they will not need it in the summer.

Mr. KEEFER: Why not? Once that dam is put in that river, navigation of that branch ceases for all time to come, and for some reason the Governments of the United States and Great Britain have agreed that that shall always be open. The point is this: An application is suddenly made to close, from the navigation point of view, a branch of the St. Lawrence river, and I as counsel am asked here to consent that that be dealt with peremptorily. I say to my learned friend, Mr. Koonce, that if this application to construct this dam is made by the United States and they are going to construct it, that is an entirely different matter. Our people are just a little bit timorous as regards this company's application. This is not new. We have had the matter in different forms in the past, and two years ago—we need not go into it—but it became the subject-matter of diplomatic correspondence in regard to a dam there in the St. Lawrence river to create power. The charter was cancelled. That plan called for this very submerged weir at this point. Now, then, that same company, as I am told—I do not know how correct it is, but I believe it to be correct—is to-day empowered



to take 60,000 horse-power from Cedar rapids, a few miles down the river, and use it for their own purposes, and that power is transmitted over Canadian territory. Last year when Canada was doing her utmost, straining every nerve to make munitions, we asked this company for 10,000 of our own horse-power. A great deal of difficulty arose, but, finally, we got 5,000 at a pretty good price. To-day they are coming forward and asking on an order that was granted in September, 1917, that Canada, who has had to watch the matter very closely in the past and who has burned her fingers once, should be swept aside on the ground of war purposes and this matter be disposed of. Now, you can readily see—I merely want to take you into my confidence—that when I say that I cannot consent to this matter, it is not in any way an objection to my learned friend, Mr. Koonce, nor to the United States of America. As I said to Mr. Koonce this morning, we would greatly desire, the United States and Canada, to join in an international development of water-power at this point and at other points, but to ask us to consent to private companies being allowed to dam and obstruct one of the branches of the St. Lawrence river——

Mr. TAWNEY: That is not what they are asking at all.

Mr. KEEFER: Then, I misunderstood the matter.

Mr. TAWNEY: They are asking merely for the consideration of that question. You will have your day in court on that proposition.

Mr. KEEFER: Yes; but on an important question like that I rather think you would say that we should have plenty of time to prepare.

Mr. TAWNEY: You concede, Mr. KEEFER, do you not, that under the Treaty and Rules of this Commission, this applicant would have to apply to the Commission for approval of this work under authority which the War Department has already granted?

Mr. KEEFER: I doubt that very much. I do not think your Commission has the slightest jurisdiction in this matter. The two parties have agreed upon this matter by way of treaty. I do not know how far you have the power, without the parties dealing with the matter, to alter a treaty.

Mr. TAWNEY: That may go to the jurisdiction of the Commission, but it does not affect the question as to the right of the company to make its application.

Mr. KEEFER: It certainly would have such right. It has made the application now or it would not be here.

Mr. TAWNEY: If it made the application under the rules of the Commission, the Canadian Government and all other interests that might take issue with the applicant on the question of whether or not the approval should be granted would have thirty days within which to file their statements in response. Now, if you concede that there is any urgent necessity for increasing the production of aluminum, and that necessity would prompt you to bring this matter to a hearing earlier than you possibly could under the thirty-days' rule, could you fix a time within thirty days that you would be prepared to proceed with the consideration of it?

Mr. KEEFER: I cannot do so. This is a matter which my Government has dealt with heretofore. I have got to go into it with them. I cannot on behalf of Canada consent to anything. Whatever their status is I should ascertain that and then come forward. I am entitled under the rules to a sufficient time to carefully study that situation. I am not raising this in any technical way.

Mr. TAWNEY: If on investigation you should ascertain the facts to be as represented here by Mr. Koonce and by the applicant, that is, that there would be no injury to navigation or to any of the Canadian interests over there—

Mr. KEEFER: If those facts were all admitted, it would make a very strong case.

Mr. TAWNEY: What I am trying to get at is whether there is any middle ground upon which you can possibly agree, whereby with consent of both Governments we could proceed with the hearing before the thirty days have expired.

Mr. KEEFER: Is not the best answer to that this pre-supposition: is Canada interested in any way, from any petty reasons of delay or any other cause, in preventing any company or any Government from manufacturing anything that Canada and Great Britain and France need? Certainly not. That would answer your question. If when I get time to look into this in the regular manner it is found that it is a proper case and that is the result, is it not natural that we will come here and urge it? In the meantime, you are trying to drive me as counsel for Canada, who knows nothing about it, and I cannot be driven.

Mr. GLENN: Is there any way of getting authority by telegraph or otherwise?

Mr. KEEFER: I might state here most frankly that I have had a conference with the Minister of Railways and Canals, and, unless he receives more light upon the subject than he has to-day, there would be a vigorous protest to this matter.

Mr. GLENN: It is a serious matter to stop this production of aluminum.

Mr. KEEFER: It is, but it is more serious to hand over a water-power to private interests. At this point there are seventy-five thousand horsepower developed. You have another application coming where I shall have to take the same ground. We have a policy over in Canada. We have the engineers out at work on this problem. We want to get the whole of that power developed, and we do not want to do anything that will prevent that and at the same time hand over more rights to private companies. And I say again to my learned friend, Mr. Koonce, if he on behalf of the United States will ask for this matter, I say yes; but not the company.

Mr. KOONCE: I am asking for the hearing, Mr. Chairman.

Mr. KEEFER: No; you are going to hand it over to private parties.

Mr. KOONCE: That reminds me of the little episode between Mr. Toots and Captain Tuttle, where Mr. Toots asked Captain Tuttle to give him the honour of his acquaintance and the captain replied, "I would be glad to do so, but the trouble is I do not know you." Now, my friend says that it is possible that they would agree to this thing, but he absolutely refuses the opportunity of showing that there is no objection to it. That is all I ask. We do not want any concession on the part of Mr. Keefer as counsel of the Dominion Government except that he will consent and relieve you gentlemen of the necessity of deciding whether or not you will hear it.

Mr. KEEFER: I might say, Mr. Koonce, in your letter of application to the Secretary of State on the 31st you say, "The principal purpose of the weir appears to be for a deflection from the St. Lawrence river of a certain additional amount of water for use by the company in generating electricity to be used by the company."

Mr. KOONCE: The clerk who wrote that did not know what he was writing about. I do not ask this Commission to decide anything except that they will hear it and determine for themselves; as a Commission in whom the power is imposed by the treaty, that they will hear and determine whether or not this is a proper thing.

Mr. KEEFER: Would it not be advisable for your Government to take the matter up directly and at once with our Government?

Mr. KOONCE: My opinion is that the International Joint Commission represents the two Governments.

Mr. POWELL: Mr. Keefer, can you not agree to shorten the time to fifteen days?

Mr. KEEFER: I have no authority to agree to anything of that kind, Mr. Powell. If I go back to Canada and say I have agreed to something, they will want to know why I did so. The work will take only a couple of months, and if it takes only thirty days to get a hearing there is plenty of time left. When the application is made in the regular way and Canada finds that out, are we not going to be much interested in hastening it? The difficulty is that I am in that position that Judge Koonce was referring to, one does not know what to do when you come before the Commission.

Mr. TAWNEY: Do you imply, Mr. Keefer, that the representatives of your Government are afraid that the Government of the United States is an accessory to the company that is trying to put something over on Canada in urging immediate consideration in this matter?

Mr. KEEFER: Not at all. There is no question as far as the Government is concerned. If the Government will ask for this work, yes; when you are speaking about fear, there is that old maxim, "I fear the Greeks even when bearing gifts." We gave them something. We wanted it back and we could not get it.

Mr. TAWNEY: You are talking about the company now. I was speaking about the Government of the United States.

Mr. MCCARTHY: Mr. Keefer is making statements that cannot be substantiated by the evidence.

Mr. TAWNEY: The Government is making a motion here for the suspension of a rule in order that this case may be heard on its merits for the purpose of increasing the production of aluminum and thereby contributing to the success of the war. That is the position of the Government of the United States. Your objection to an immediate consideration of this matter seems to be due to the difficulty that the Government of Canada has had with this company.

Mr. KEEFER: It is more than that. We want to know what we are doing before we move.

Mr. TAWNEY: Mr. Gordon—and this applies also to Mr. Koonce—the application has now been filed with the Commission. Under the Rules of the Commission any one desiring to do so would have thirty days within which to file a statement in response. Assuming that the thirty days were taken up; that would bring the hearing up to about the 12th of September. Now, you say that this work could be completed within sixty or ninety days.

Mr. GORDON: Ninety days.

Mr. TAWNEY: How late in the season could you continue to work there?

Mr. RICKEY: Not later than from the 1st of December to the middle of December.



Mr. TAWNEY: I was assuming that the full thirty days would be consumed by the Canadian Government in the preparation of its statement in response. That would carry it up to about the middle of September. Then the matter could be heard and decided promptly after the hearing. I was wondering whether that would not give you a sufficient period between then and the time you would have to cease work at the end of the season to complete this weir.

Mr. GORDON: That would give us about seventy-five days, perhaps. I think it would be risky.

Mr. RICKEY: It would be risky on account of the inclement weather. There are days when there is a very strong wind there, and at such times it is impossible to take a tug down through that water. We have to take the tug out in the current; take these rocks there and drop them down; and there will be days at a time when it will be practically impossible to carry on the work. That is why we want ninety days in which to do it.

Mr. POWELL: Is your proposed wier a loose-stone weir, or do you propose to make a concrete weir?

Mr. RICKEY: It is heavy stone for the bottom with a concrete crest.

Mr. POWELL: Do you propose to have it continuous from the present jetty to the dam?

Mr. RICKEY: Yes, sir.

Mr. POWELL: Have you considered the propriety of having an opening in it which would do for vessels going downstream?

Mr. RICKEY: That is impracticable, because there will be so little water going over the weir. There will be about five thousand or six thousand second-feet passing over the weir. That will not be sufficient depth of water below it.

Mr. POWELL: But you could have a gap in your submerged weir. They contemplated doing that in the St. Lawrence river for their ship channel, and they proposed it not only for vessels going downstream but for vessels being towed upstream through the gap.

Mr. RICKEY: There will be a drop at the submerged weir of probably 10 feet, and unless we get the current very materially reduced between the head of Long Sault island and the canal intake—

Mr. POWELL: What is the height above the bottom of the bed of the stream?

Mr. RICKEY: About 14 or 15 feet.

Mr. POWELL: What additional depth of water would you have?

Mr. RICKEY: It would raise the water about 4 feet. It will give a drop past the weir of about 10 feet.

Mr. POWELL: That would not prevent the running of the stream down there. In a short time it would gouge out a hole there.

Mr. KING: I am afraid I would support Mr. Rickey in the suggestion that he could not very well navigate. It is not exactly the same thing as they are proposing to do in the St. Lawrence.

Mr. GLENN: Mr. Gordon, you said that you people had not contemplated using this thing until next spring, but that the United States Government came in and asked you to do it at once, so that you could get this increased quantity of aluminum. Have you that correspondence?

Mr. GORDON: I think that was verbal.



Mr. GLENN: If you have any such correspondence I would like to see it in order to ascertain how far the United States Government has committed itself to this business.

Mr. GORDON: I think it was verbal. I want the Commission to understand that on the part of the Aluminum Company of America we will do everything possible to expedite this hearing and do the work rapidly. If it is authorized and can be finished this fall by any degree of effort, it will be done. Whatever time the Commission says they can hear the case we will be here to present it. We do feel that we are here at the request of the Government, and we do know that this is the only way it is going to be able to produce six or seven million pounds more of aluminum. If this weir is not finished this fall, the United States and the other Allies will have six or seven million pounds less of aluminum to use this winter. Now, that is all there is about it. As I say, we are going to exert every energy that we can to get this through, and if it is not finished, it will not be on account of any lack of co-operation on our part with the Government.

Mr. MAGRATH: But you had this in mind last year. Why did you not come forward then?

Mr. GORDON: We did not intend to finish it this year. We intended to finish it next year.

Mr. MAGRATH: Your product was in demand last year as it is this year?

Mr. GORDON: But we are spending millions at other places. This is not the only thing, but this is the only thing we can do on top of all the other things to get 6,000,000 pounds more aluminum.

Mr. MAGRATH: But you undertook to go in that channel and do some dredging.

Mr. GORDON: It will take several months.

Mr. MAGRATH: It appears to me that you should have come here then.

Mr. GORDON: The War Department's order did not send us here. That was a separate permit altogether.

Mr. MAGRATH: Do you mean to say that the dredging of that channel above there has not given you more water in that power canal?

Mr. GORDON: Why, certainly not, because we have all the water in the power canal that we want now.

Mr. MAGRATH: You have in the winter season as well?

Mr. GORDON: Yes. Dredging is a part of this ice diversion scheme. All the water that our turbines will take is in the canal. We have been getting it in the summer without any trouble and we are getting it to-day, and the work is done to its extreme capacity. The trouble is this stream blocks up solid with ice and our plants have to shut down for lack of water. I do not know that as a lawyer I can explain it in a satisfactory way, but these hydraulic engineers are all satisfied that this plan would be a success. That is dredging through the shoals and in that way giving more chance for the water to get under the ice, and then by putting this weir below the intake of the canal so that it will not make such a heavy current down the South Sault. That water will freeze as a lake there, and then by dredging out the shoals the water can get under the ice. The two things work together, and by putting this boom out there and deflecting the ice down the river we will have what you might call a sealed passageway that will extend from the intake into the canal up to Dodges

shoal, where the water will come in underneath the boom. In that way we will get water all winter that will be sufficient to work that plant.

Mr. MAGRATH: I gathered from the statement made here that you took on an average about 27,000 second-feet of water for how many months in a year?

Mr. RICKEY: About nine.

Mr. MAGRATH: About what do you average for the other three?

Mr. RICKEY: It will run as low as three thousand.

Mr. MAGRATH: That is all due to ice conditions?

Mr. RICKEY: Absolutely.

Mr. MAGRATH: It is not due to a lack of water?

Mr. RICKEY: No, sir.

Mr. MAGRATH: And you average about what in the three months?

Mr. RICKEY: I would say from 17,000 to 18,000 horse-power.

Mr. MAGRATH: What, then, does this difference make in horse-power to you?

Mr. RICKEY: During those three months?

Mr. MAGRATH: Yes.

Mr. RICKEY: Our summer output is about 85,000 to 86,000 horse-power day in and day out. In the winter-time it has gotten as low as only 150 horse-power, scarcely enough to pump the water for the village of Massena. It varies from that up to 10,000 horse-power.

Mr. MAGRATH: Averaging what?

Mr. RICKEY: From 15,000 to 18,000 horse-power. That is approximately correct. May I make just one statement about the ninety days, Mr. Chairman? One day in September is worth two or three days when there are cold fingers up there. It is almost impossible to get men under present conditions. We will do what we can, but one day during the warm season is worth two or three days later on in getting the stone and manipulating the boats, tugs, etc.

Mr. GARDNER: The effect of your excavation there at Dodges shoal is to deepen the water and slow the current at this particular place?

Mr. RICKEY: After the weir is put in, yes; and the clear water will go through this channel.

Mr. KING: On behalf of the interests which by one section of the treaty is paramount with reference to power, will you allow me a word? I happen to be the only gentleman present on behalf of the marine interests on the river. I find myself in a very difficult position. My first direct notice of this application was given to me on the verandah of this hotel as I entered. Mr. Keefer showed me then, the plans which had been on the table. I had indirect information somewhere before that this was likely to come up, but had no idea whatever what the application was. I told Mr. Keefer at once that I would be recreant to every duty to the interests that I represent if for one moment I consented to a hearing of an application of this character without an orderly procedure. I do not know whether or not the interests that I represent will be prejudiced in the slightest by the proposed work. I do not propose to set up my opinion as a lawyer in the way that an hydrographer, engineer, or a practical navigator should express an opinion, a man who knows how far the south channel is used. I ask in the strongest terms that we be given, as we have been heretofore, time to consider and time to consult, and when I say to consult I mean to consult

interests that run from Port Arthur to Montreal, men who only get together with great difficulty. Thirty days is a small enough time, first of all, to consider what we have and then to consult down at Ottawa with the authorities there as to the effect of the proposed work. I ask you in the strongest terms to give us all the time that is usual in a matter of so great moment, and I say that in full realization of the strength of the argument which Mr. Koonce has presented, we must do whatever is possible to hasten everything to win the war. Cut red tape where it is necessary. Keep moving. I quite agree to that. But, at the same time, I feel it my duty to the interests that I represent to ask for the time that we are permitted under the rules.

MR. MAGRATH: Well, of course, Mr. King, when the Government of the United States comes here through its representative and says that war effort will be hindered unless this company is permitted to put in that structure, that is an appeal that is very hard to shove aside. The point that I want to be satisfied on is whether or not these gentlemen can get that power necessary to carry on this war effort. I consider it the duty of these two Governments to see that they are permitted to do so, and not wait for any particular length of time. I consider this question should be dealt with and dealt with very promptly.

MR. KING: With some reasonable time, though, surely, Mr. Magrath.

MR. TAWNEY: Mr. White, have you anything to offer on the motion of Mr. Koonce?

MR. GARDNER: I would like to ask Mr. King a question before you proceed, Mr. White. Mr. King, supposing after a conference with your interests you should find that you could be ready in twenty days. Would you be willing to yield that?

MR. KING: Granting your premise, there will be no other answer that I can give you but an affirmative one.

MR. KEEFER: The application that is made comes up in a regular way, and are you pre-supposing that we are going to delay it? But you are asking me to tie myself.

MR. GARDNER: I do not ask you to tie yourself up, but I am asking you if you would be willing to yield the ten days.

MR. KEEFER: I can answer the same, then, as Mr. King.

MR. TAWNEY: If on further investigation of this matter you find it could be brought on for hearing within twenty days, would you consent then to waive the other ten days under the rules.

MR. KEEFER: The minute I can get a chance to confer with my people at Ottawa, and also the province of Ontario which is vitally interested in this matter, can grasp the situation thoroughly, if there be no objection from them, I am not going to ask you to wait for thirty days.

MR. MCCARTHY: Mr. Keefer has had ten days.

MR. KEEFER: I beg your pardon.

MR. MCCARTHY: The Minister of Railways told me that he had sent for you and that he had instructed you in the matter and that you were in consultation with Mr. Stewart.

MR. KEEFER: He sent for me and instructed me to oppose this matter in the limited light that he had. I have those definite instructions, and you are asking me to throw those all aside and do something different.



Mr. KING: If the Commission is going to consider the possibility of cutting down time and waiving certain rules, we should have similar advantages. Possibly the Commission may see its way clear to waive some of the other obligations in the way of printing, with the same object in view. I mean that it takes us a little time to prepare our case.

Mr. POWELL: You might submit typewritten copies, and print them afterwards.

Mr. TAWNEY: Yes, the Commission will waive that rule and accept typewritten copies.

Mr. KEEFER: I think where both Governments are so vitally interested you could trust them, but you are asking me, first, to take the matter up peremptorily to-day, and I say no. Then you are asking me to fix upon a time. It is so sudden. I cannot say what the engineering problems will be. If it affects navigation it is a very serious matter. I do not know whether it does or not.

Mr. GLENN: Could not we safeguard that in our decree so as to protect you?

Mr. KEEFER: Those are details, to come up when we find out what the facts are. We are taking it all on one vision.

Mr. TAWNEY: We will hear you now, Mr. White.

Mr. WHITE: The Commission of Conservation of Canada for many years has been interested in having both navigation and power development proceed on the St. Lawrence river in a manner that will preserve the integrity of that stream for both these interests, and, at the same time, produce the maximum efficiency. It had come to the knowledge of the Commission, through no official channel, that it was not improbable some application would be made by a power company to change the physical conditions in the St. Lawrence river in the vicinity of the Long Sault rapids. The Conservation Commission had no knowledge of what those changes would involve. I am sure that there is no one connected with the Commission who would not have been deeply impressed with the appeal made by Mr. Koonce on behalf of war needs, because the whole staff ever since the outbreak of the war has devoted its entire time to matters incident to the furtherance of the cause of the Allies. But when later it was disclosed that the company proposing to make application in this matter must have had full and specific knowledge of what it had to do at least in September, 1917, I feel that it rather lessens one's assurance in the outlook upon what may be involved in the carrying out of this proposal in its effect both upon navigation and the full development of power upon the river. My instructions from the Conservation Commission are, if any application like this should come, to ask for sufficient time for the matter to be adequately considered, and in view of what has been set forth here, I know that those instructions would, if possible, have been much more strongly emphasized. The Commission of Conservation, as indeed the public, looks to your Commission to maintain the usual safeguards as found in the Rules of Procedure. While in the present instance it may be desirable to shorten time, or to supersede your rules, I do not feel that that course should be adopted without at least some conference between the representatives of the two Governments.

Mr. TAWNEY: Well, Mr. White, as I understand the situation with regard to the time of presenting this application, it is this: permit was granted



to the applicant company to make these improvements separately. They proceeded with the dredging and with the preparation for the construction of the boom; the submerged weir, being a separate and distinct unit, was to be constructed last. In their original plan they did not contemplate constructing that weir until next summer, 1919. Now, the emergency arises, when the Government of the United States requires, and all of the Allies, in fact, require the production of more aluminum, which increased production may be secured only by the prompt construction of this weir in order to run through the winter to the full capacity of this plant. I do not think any one ought to feel any apprehension about the motive for making the application or the request that it be acted upon within the shortest time possible, because it was originally contemplated by the company that this part of the improvement should not be made until next summer, and during the winter they would make their application, and, if possible, obtain the approval of this Commission for that purpose. So it is virtually an emergency for which the Government of the United States is primarily responsible. It is because the Government of the United States is urging this company to proceed to obtain the authority necessary in order to secure an increase in the production of aluminum. Everybody should look at it in that light, and also remember that under the treaty and under the Rules of this Commission the company would have a perfect right to apply for an approval at any time.

Mr. WHITE: I quite understand the force of what you have stated, Mr. Commissioner. My reference to the knowledge being had on the part of the applicant last September still holds, however. It seems to me that it would have been fitting if the company had known then—as they evidently did—that they were going to require the approval of the Commission for these works, that at least some knowledge of it might have been brought to the attention of the authorities of Canada.

Mr. TAWNEY: I do not think the company would be required, or even expected, under the treaty or under the rules, to do that until it was ready to make the application. Then, of course, the Canadian Government would have the same notice that any other interests would have, but they would have plenty of time under the rules to prepare statements in response.

Mr. MCCARTHY: Mr. White, your office got a telegram from me about the 27th or 28th of July, asking for an appointment with Mr. White, Wednesday or Thursday. I got an answer that he would be in Ottawa on the 28th and not again until Saturday. I went to Ottawa and the Mr. White that I ought to have seen was not there, and I saw Mr. Stewart. There has been no ignoring the Conservation Commission.

Mr. WHITE: Reference was made here to the St. Croix river. You will remember in that instance your work had been proceeded with and it had reached a certain stage. It proved exceedingly difficult for the Commission to deal with it on that account. With reference to the two portions of work which the St. Lawrence River Power Company has apparently already completed, it seems to me clear that it would have been much better for the company to have made sure that interested parties on both sides of the boundary were adequately advised respecting their intentions, especially when it was necessary to go further with the work in building the third item which has here been referred to as the submerged weir.

Now, Mr. Chairman, just one further point suggested by your comments. I do not wish in any way to have my statements construed as offering any opposition; but, on the contrary, being ready in every way to facilitate the expedition of any hearing that may be involved in this matter. But when Mr. Koonce used the expression, as I believe subject to correction, that he desires the Commission "to hear and determine upon representations" at this session, that could only, of course, be the representations of one side.

Mr. MIGNAULT: Mr. Keefer, assuming that it is urgent to hear this application; the Commission might fix a date in September, say some four or five weeks hence; give you a delay of say two weeks to put in whatever reply statement you might have to make, and fix now the date for hearing the application. I can imagine that there may be cases where the urgency is such that ordinary rules ought to be suspended.

Mr. KEEFER: I quite concede that.

Mr. MIGNAULT: You are asked to take the responsibility for shortening the delay. Assuming that the Commission fixes a day within, say, a month, for the hearing of this application, and gives you a fair proportion of that delay to put in your answer, would that be satisfactory?

Mr. KEEFER: I am not going to take the thirty days we are entitled to within which to file our answer. I am going to get this answer in as rapidly as possible. To do that I have to get the benefit of the best technical advice. The statement is made that it does not affect navigation. Canada is concerned in the navigation. It is as important that we keep our navigation intact in this war as that the Aluminum Company should make more aluminum. If it does not affect navigation then that matter is cleared up.

Mr. TAWNEY: What time of the year is the St. Lawrence river navigable?

Mr. KEEFER: During the summer, but once you put in the submerged weir there that channel is gone, and the Webster-Ashburton treaty says that this particular channel should be open.

Mr. GLENN: Mr. Koonce says it is not used at all now.

Mr. KEEFER: I take exception to any statement that is made that it is used only for rafts. I was given quite a list of boats that have navigated that channel. Since the war I understand none of the boats has navigated it. The lighter draught boats, which have been taken off now, usually take the smaller branch on account of the less volume of water, and whenever they come back into operation they will be using that channel. I know nothing about this matter. I am merely stating these facts as they were told to me. But I am not interested in and cannot be a party to delaying this application. Some of you are parliamentarians. You have seen matters brought in to be rushed through in the closing days of a session. They have sat by until now, twelve months, practically.

Mr. TAWNEY: They came in at the instance of the Government of the United States.

Mr. KEEFER: They came in with the backing of the United States. If this application is made by the Government of the United States, there is no difficulty about it. My learned friend, Mr. Koonce, said to me this morning, "This company has our backing." I said, "Why do you not take hold of this thing yourself?" He said, "Well, we do not want to be bothered with it. They simply have our backing."

Mr. TAWNEY: I am saying that the application for the immediate hearing is at the instance of the United States.

Mr. KEEFER: And the Government of Canada says they do not want to delay it, but when you are trying to tie my hands I cannot do it. So far as I am concerned, I will hasten this matter coming before you.

Mr. GARDNER: I would like to ask Mr. Rickey a question. Suppose by reason of these delays that are now in view you would not be able, in the event of your getting the approval of this Commission, to get that construction more than two-thirds completed and then had to suspend work in consequence of the inclemency of the weather, how would that affect your work during the winter?

Mr. RICKEY: The conditions during the coming winter might be improved somewhat. On the contrary, a big ice jam coming down there might take everything out we have put in. In other words, that weir must be substantially completed up to elevation 200 so as to decrease the velocity of the water, which in turn brings the huge masses of ice. It is only when you see a mass of ice 1,500 feet wide that you can appreciate what it is. It may go out and it may not.

Mr. STEWART: Mr. Chairman, I would like to say a few words with regard to my connection with this matter. Mr. McCarthy brought the matter up. On the 1st of August Mr. Magrath called me up to say that Mr. McCarthy was over there to see me about this proposition. Mr. McCarthy told me that the application had been filed in Washington and that we would get it in Ottawa in a day or two. I had planned to go on my summer vacation, and I arranged to stay. Nothing was seen in Ottawa for more than a week, when Mr. Rickey came there last Thursday, and in my office I told him that I had not seen it. I called the Commission's office, and nothing had been seen of it there. So that up to Friday there was nothing in Ottawa, and until it came formally before the Government I could not go there and rush the matter through. That is my connection with it. If I have caused any delay, I am sorry for it.

Mr. MCCARTHY: I did not want to convey that impression; but I wanted to show that we had done our part.

Mr. TAWNEY: If there is nothing further to be presented to the Commission on this subject, I would say that I am requested to announce to counsel that the Commission will take the matter under advisement and possibly some time to-morrow make some disposition of the motion which Mr. Koonce has presented here this morning.

TUESDAY, AUGUST 13, 1918.

The Commission met at 2:30 o'clock, p.m., and resumed the consideration of the question of the application of the St. Lawrence River Power Company.

Mr. TAWNEY: Mr. Chairman, I will read the order that the Commission has just agreed to in the matter of the application of the St. Lawrence River Power Company:—

*In the matter of the application of the St. Lawrence River Power Company.*

The St. Lawrence River Power Company, having duly filed its application for approval of the construction of a submerged weir



in the St. Lawrence river connecting its jetty at the mouth of its power canal with Long Sault island, in the south channel of the St. Lawrence river, which obstruction has been approved by the Secretary of War of the United States by permit No. 38786/64, subject to the approval of this Commission, and the time for filing statements in response to said application not having expired, Mr. George W. Koonce, of counsel for and on behalf of the Government of the United States, moved the suspension of rules 9, 10, 11, 12 and 13 of the Rules of Procedure, and prayed that the hearing on said application proceed at this session of the Commission, notwithstanding said rules. In support of his motion, Mr. Koonce, among other things, submitted letters addressed to the Commission by the Chairman of the War Industries Board and the Director of Aircraft Production of the United States as follows:—

WAR INDUSTRIES BOARD, WASHINGTON, AUGUST 8, 1918.

Chairman, International Joint Commission,  
Washington, D.C.

"MY DEAR SIR.—The War Industries Board is apprehensive that the supply of aluminum may not be adequate to the demands of the Allied Governments, and is therefore particularly desirous that any opportunity for increasing the output be taken advantage of. While there is at present just about a balance between the demand and the supply of aluminum, it would be a great advantage to increase the output, especially as the demand is likely to be increased, while the output cannot be increased except by new construction. Such an increase would be an insurance against fire, strikes, and other causes.

"In addition I may state that there is practically no available stock of aluminum on hand. During the winter we expect not only interruptions in transportation but also interference in power, and especially at Niagara Falls, N.Y.

"We therefore recommend that the application of the Aluminum Company of America, for which permit was received from the United States Government, to build a submerged weir in the St. Lawrence river near Massena, N.Y., be granted. As this weir is in a boundary stream the permit has also to be approved by the International Joint Commission, and we therefore beg that you approve this application.

"The construction of the weir will increase the horse-power at Massena by some few horse-power all the time, but its object is the remedial effect on ice conditions. The plant now produces 80,000 horse-power for nine months in the year, but is reduced by from 5 to 15,000 horse-power during the months of January, February, and March. The construction of a weir will substantially relieve that condition, and if work can be permitted on the construction of the weir a large increase in the output for the first three months in 1919 will be effected—the time when we most need this increase in output, especially in the production under the Aircraft programme.



"It is believed that there will be absolutely no disadvantage to Canadian navigation, and for reasons given above we beg that you approve the application for the submerged weir on the St. Lawrence river at Massena, N.Y., asked for in the application.

Yours very truly,

B. M. BARUCH,

*Chairman, War Industries Board."*

WAR DEPARTMENT, BUREAU OF AIRCRAFT PRODUCTION,

WASHINGTON, August 9, 1918.

*"From Office of the Director of Aircraft Production.*

*To Chairman, International Joint Commission of the United States and Canada, Southern Building, Washington, D.C.*

"1. It seems very advisable to increase the production of aluminum and we understand this can most quickly and easily be done by allowing the permit that the Aluminum Company of America have made application for to construct a submerged weir in the St. Lawrence river at Massena, N.Y.

2. As this matter is of the greatest importance and as we understand the International Joint Commission of the United States and Canada meets next Monday, we heartily recommend immediate and favourable action on the application of the Aluminum Company of America, unless there are some specific and important navigation difficulties that present themselves to make this action inadvisable.

"By direction of the Director of Aircraft Production.

M. W. KELLOG,

*"Acting Director of Aircraft Production."*

It was further urged by counsel in support of said motion that the construction of said submerged weir was necessary for and will result in an immediate increase in the production of aluminum at the plant of the said St. Lawrence River Power Company of between six and seven million pounds per annum; that the construction of said weir can be completed within from sixty to ninety days, and that work thereon can continue not later than December 15. It also appeared from statements of counsel that it is in the months of January, February, and March of each year when the full efficiency of said submerged weir will be required to secure the maximum production of aluminum at said plant. The Commission also heard Mr. Frank H. Keefer, K.C., of counsel for and on behalf of the Government of Canada, and Mr. Francis King on behalf of the Canadian navigation interests on said motion;

It is ordered, That rules 9, 10, 11, 12, and 13 of the Rules of Procedure of this Commission be suspended so as to facilitate the earliest possible hearing on the said application, and that said hearing be and is hereby fixed for the 29th day of August at 10 o'clock,

a.m., of said day at the city of Montreal, Que.; and that all statements in response to said application be filed with the Commission on or before the 26th day of August, 1918.

Dated at Atlantic City, N.J., this 13th day of August, 1918."

Mr. KEEFER: May I ask whether it will be necessary to print the replies, etc., or whether that can be dispensed with? There is difficulty in getting documents printed sometimes through the Printing Bureau.

Mr. TAWNEY: That rule is waived with regard to the printing. They will have to be printed eventually, but not for the purpose of the hearing. We will accept them in typewritten form with the understanding that they will be printed later.

Mr. TAWNEY: Mr. Chairman, I want to call the attention of the representatives of the St. Lawrence River Power Company to the necessity of amending the prayer of their application. The prayer of the application is that "The company therefore most respectfully applies to Your Honourable Commission for the approval of this permit granted by the Secretary of War of the United States, bearing date of September 10, 1917." Under the treaty this Commission has no power to approve any act whatever of any officer of either Government. Our only function is to approve or disapprove, under Article III, the use, obstruction, or diversion of boundary waters, and it is the approval of the obstruction which you propose to build in the St. Lawrence river that you request of this Commission.

Mr. MIGNAULT: You will notice in the order, of which you have been given a copy, that we refer to the application as being one for the approval of the construction of a submerged weir. It should pray for the approval of the Commission to be granted for the construction of the submerged weir, indicating sufficiently of what it consists.

Mr. KOONCE: What they want to ask you to approve is exactly what the Secretary of War has authorized, and it is all described in the first paragraph.

Mr. TAWNEY: It is the approval of the obstruction in this river by the construction of this weir, but we do not approve of the permit of the Secretary of War. We have no power to approve of the act of any officer of either government.

Mr. KOONCE: But you want to approve what the Secretary of War has authorized subject to your approval.

Mr. TAWNEY: That ought to be properly amended. Now, the order suspending the Rules ignores entirely the title and also your prayer in the application, because we made it the approval of the obstruction as authorized by the Secretary of War.

Mr. KOONCE: I submit, Mr. Chairman, that they can make that change at the hearing.

Mr. TAWNEY: It may be done, of course, at the time of the hearing, but I simply wanted to call their attention to it, so that they could come prepared, and nobody could claim that they were taken without notice.

Mr. KEEFER: Did I understand correctly that the St. Lawrence River Power Company obtained permit for the three works that were mentioned, and have only found it necessary to ask for the approval of one? If so, I would like to get the three before the Commission.

Mr. TAWNEY: The other two do not come within the jurisdiction of the Commission because they do not affect the level of the St. Lawrence river.

Mr. KEEFER: I gathered that permission was given for the construction of three things. We have only one before us.

Mr. KOONCE: Let me explain that. The company made its application to the Secretary of War to do three things, and this original application embraced the three. One was the dredging of this channel across the shoal, one the construction of a removable ice boom and one the construction of a submerged weir. Those three things, as I understand it, were necessary, the whole of them, to effect the improvement that they proposed to make. Our department separated the two. Our engineers thought that the dredging of this channel and the construction of this temporary ice boom would not affect the regimen of the river in any way on either side detrimentally, and that it had no international aspect. So we separated them and granted them two permits. They embraced the two, the construction of the ice boom and the dredging of the channel in one permit, and for this submersible weir, which we considered had an international aspect, we made a separate permit. That permit is given subject to the approval of the International Joint Commission.

Mr. KEEFER: Could not copies of the whole record in this respect be filed with the Commission? There may be some relevancy in it.

Mr. KOONCE: Certainly.

Mr. POWELL: How can you dredge a river without changing, to a certain extent, the whole of it?

Mr. KOONCE: I do not understand that the dredging of a narrow channel across a shoal in itself would affect the level of the stream to any great extent, and even if it did affect it in this case, this submersible weir would make entire compensation.

Mr. GARDNER: Mr. Koonce, do you know whether these three propositions were acted upon at the same time by the department?

Mr. KOONCE: Yes; they were acted upon at the same time. They were made in separate permits.

Mr. TAWNEY: Mr. Koonce, is it not a fact that the doing of the other two things, namely, the construction of the boom and the dredging, for which permits have been given, have been reported to your office as not affecting the level one way or the other?

Mr. KOONCE: Yes, sir; that was the reason we separated them.

Mr. TAWNEY: And the work being wholly within the United States, there was no necessity of applying to anybody for approval?

Mr. KOONCE: The Canadian Government would not ask our permission to put in a new lock at the Cornwall canal.

Mr. MIGNAULT: Matters like this should come before the Commission, at least informally, so that both countries might be fully informed.

Mr. KOONCE: Mr. Mignault, you will remember that the treaty distinctly states that it is the right of either Government to make those improvements on either side of the line that do not affect the flow on the other side of the line.

Mr. MIGNAULT: I grant it is a question of whether they do or do not affect the flow of the boundary waters.

Mr. KOONCE: You must determine that.



Mr. POWELL: Do you not think that the ultimate determination of that is with the Commission? Supposing a case, Mr. Koonce, which unquestionably interfered and your officers said it did not. Would it cut out the jurisdiction of the Commission?

Mr. KOONCE: Certainly not, if the Canadian Government questioned it.

Mr. KEEFER: I think out of courtesy and wisdom, before such works are done they should be brought to the attention at least of the representatives of the Governments, so that if they differ in opinion upon the point of whether it does or does not alter the level, it could come up before your Commission; but I do think it is not a wise procedure for either one of us to take in hand any work that possibly affects the boundary waters and determine it by our own judgment.

Mr. TAWNEY: Mr. Keefer, it is a fact, is it not, that notwithstanding this treaty if there is any contemplated improvement wholly within the jurisdiction of either country, and under the law of that country the improvement must be first authorized or permitted by proper authority, and that authority is advised by its own officials that such improvements will not in any way affect the level and flow of the water on the other side, there is not anything to submit to anybody?

Mr. KEEFER: I grant that, but here has been a treaty made by which if there be such, then it shall be submitted. One would think that it should not be altogether assumed by either one of the parties to the treaty to determine whether it will or will not affect such level. That is the difficulty that I see. Otherwise, you will have the work done and then the complaint will come afterwards. The United States, when it is a governmental matter, are most punctilious about it, bringing it to our attention in every way, as they have done, and which we have appreciated.

Mr. MAGRATH: But they are responsible in this case. They have said it does not affect them.

Mr. KEEFER: I have not the slightest doubt but that it does not affect them if Mr. Churchill, the engineer says so; but it seems to me the procedure is not a wise one.

Mr. POWELL: Do you not think the dredging of that river is going to change the level of the St. Lawrence river above?

Mr. KEEFER: I would not want to set my layman's opinion against the opinion of the engineers. One would think that it would.

Mr. KOONCE: It would not affect the water of the other side.

Mr. POWELL: If it diverts the water it certainly would have an effect.

Mr. KOONCE: It is not diverting water anywhere.

Mr. POWELL: How can you deepen a channel without taking more water down?

Mr. TAWNEY: Well, they did it in the Livingstone channel.

Mr. POWELL: In the case of the Livingstone channel it was not a question of diversion at all.

Mr. MIGNAULT: Take the St. Clair river case. In that case you were dredging a new channel in the United States waters entirely, but it came before the Commission because it affected the level of Lake Huron?

Mr. KOONCE: We certainly would not be inclined to question the judgment of your engineers on a thing of that kind.

Mr. MAGRATH: I am satisfied the way it stands. If the engineers of the United States or Canada say it does not affect them, I am satisfied.

Mr. POWELL: It is not a question of whether we are satisfied or not; it is a question of the law or the treaty.

Mr. KING: The engineers that are now quoted by Mr. Koonce have given an opinion based on the assumption that none of this water which is to pass down the dredged channel will be taken down the mouth of the power canal. That opinion has been given on the assumption that no more water is to be taken down the power canal, but the ability to do it is there, and the Commission will have to decide how much water shall be taken down the canal.

Mr. KOONCE: That would mean an enlargement of the canal and putting in of more turbines. We have control over that.

Mr. WHITE: In the order it is stated that "Mr. George W. Koonce, of counsel for and on behalf of the Government of the United States, moved the suspension of rules 9, 10, 11, 12, and 13 of the Rules of Procedure, and prayed that the hearing on said application proceed at this session of the Commission." A short time ago, when Mr. Koonce was on his feet, I understood from what I could hear of the comments, although there was other conversation in the room at the time, that he made some statements which I would like to ask if they were intended to qualify that statement in the order; whether the request was made as counsel for and on behalf of the Government of the United States. I might further state that the reason I am making the inquiry is that yesterday, when the chairman asked the same question of you, Mr. Koonce, your attention was diverted so that there was not a reply given, and I do not know whether the statements you made since recess were intended to qualify or in a measure nullify the statement.

Mr. KOONCE: I do not know that it is necessary to make a record of this, but I have no hesitation in saying that I was directed by the Secretary of War to come here. The Secretary of War, the Chief of Engineers, General Keller, and I had a conference on Saturday afternoon. The request of the Secretary of War was made by the Chief of Engineers, and the Secretary of War, after investigating the matter, directed that I be sent here to represent the Government.

Mr. TAWNEY: I understood that in this case you were authorized to represent the Government of the United States, but not in the other case.

Mr. KOONCE: That is true, but a special counsel is quite a different thing from being counsel to the Commission. Counsel to the Commission is an appointment that comes from the Secretary of State.

Mr. KEEFER: That is a point that I want to get at. If Mr. Koonce comes here authorized by the United States Government, that puts an entirely different complexion on it.

Mr. KOONCE: I should surely not have been here on my own accord.

Mr. KEEFER: The difficulty I was met with in this matter was that we came here under definite instructions to oppose an application by the St. Lawrence River Power Company for this approval, and I was completely surprised when I was met by an application of the United States. If the United States not only makes the application for the suspension of these rules, but makes the application for this order, Canada will fall into line as quickly as possible, but when the United States gets behind the company that is making the application it gives a different complexion to it, and we do not know exactly where we are.

Mr. WHITE: That is the point I wanted to be clear on in making my report to the Commission of Conservation. If a representative comes

down from one of our departments he occupies a different status from what he would if he were specifically delegated by the Government or the Cabinet to represent them.

Mr. TAWNEY: That recital, Mr. White, was made upon the basis of statements that were made to the Commission, and the Commission is responsible for the recital and not Mr. Koonce or Mr. Keefer or anybody else.

Mr. WHITE: But was it not after the reading of this recital by you that Mr. Koonce got up and made comments which I thought were specifically directed to those statements in the order?

Mr. KOONCE: No; I was talking about the Waddington case.

Mr. KEEFER: It is clear now that Mr. Koonce is appearing for the United States, not for the War Department or the Aircraft Production Board, but for the United States Government.

Mr. TAWNEY: Yes; we have made that a part of our recital.

Mr. KING: Is Mr. Keefer correctly interpreting your remarks now? I rather got the contrary impression. I got the impression that you said you were here under instructions from the Secretary of War.

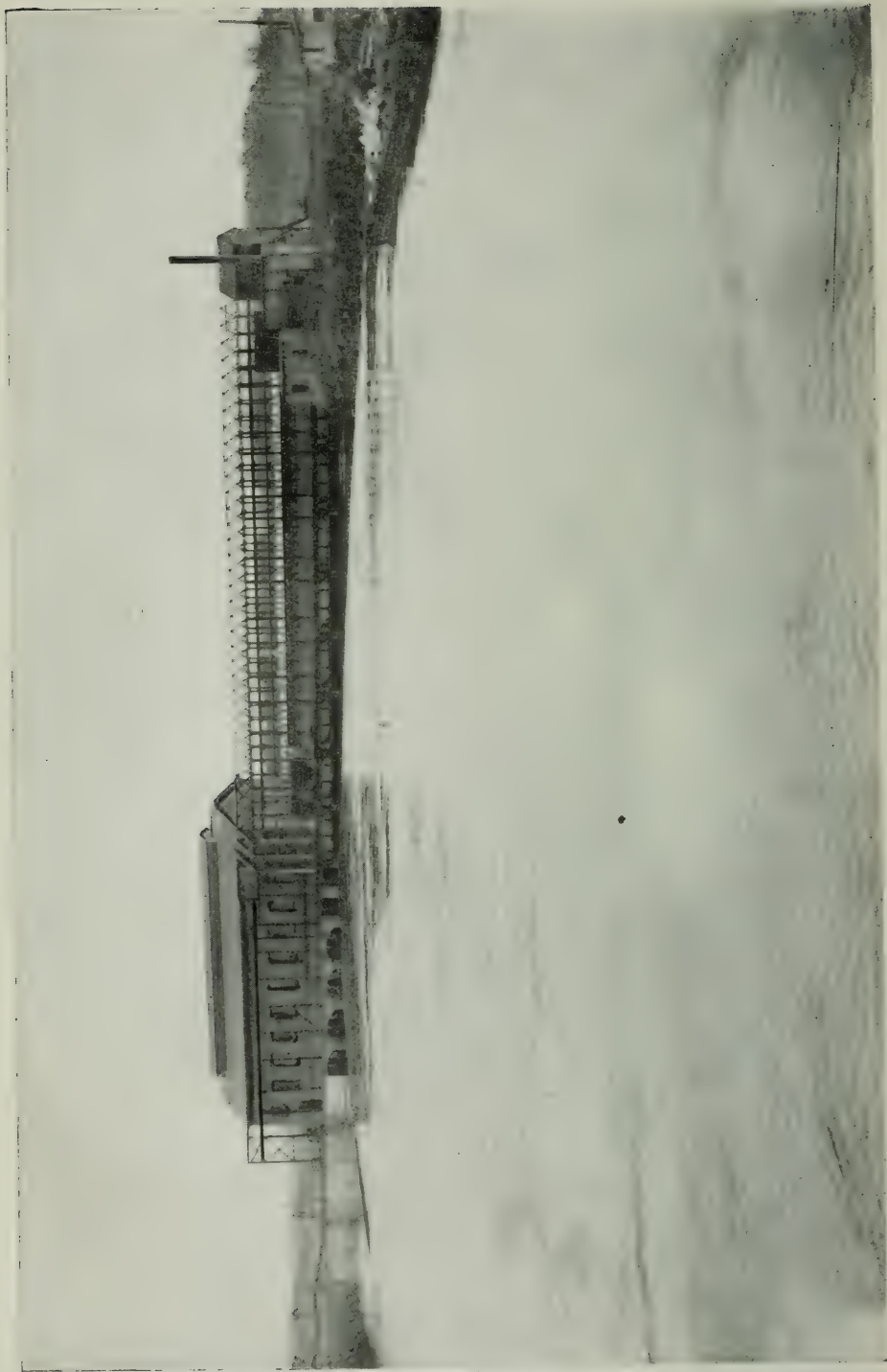
Mr. KOONCE: That is what I said.

Mr. KING: That means the United States?

Mr. KOONCE: Certainly. A Cabinet meeting would not be called to consider a question that is entirely within the province of the Secretary of War, and with which no other department of the Government had anything to do. This is a war measure, and our only interest in it is on account of the war.







(To face page 35.)

Canal and power house at Massena.

INTERNATIONAL JOINT COMMISSION.

IN THE MATTER OF THE APPLICATION OF THE ST. LAWRENCE RIVER POWER COMPANY FOR THE APPROVAL OF THE CONSTRUCTION AND MAINTENANCE OF A SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER NEAR THE MOUTH OF ITS POWER CANAL AT MASSENA, NEW YORK.

MONTREAL, CANADA,

AUGUST, 29, 1918.

Pursuant to notice, the Commission met at Montreal, Canada, at 10 o'clock, a.m., on Thursday August 29, 1918.

Present: Charles A. Magrath (presiding); Obadiah Gardner, Henry A. Powell, K.C.; James A. Tawney, P. B. Mignault, K.C.

Lawrence J. Burpee and Whitehead Kluttz, secretaries.

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Mr. MAGRATH: Gentlemen, the suggestion has come to me that before taking up our work this morning I should make a brief reference to the purpose and powers of the International Joint Commission, because, even in the minds of the best informed, there seems to exist but a hazy idea as to its functions.

The world is to-day undergoing the most violent upheaval in history; the arbitrament of horrible war has been appealed to for the settlement of international differences. There exists only one permanent organization, whose mission is to settle amicably controverted questions between nations, and that is this tribunal which has been devised by the great democracies of Great Britain and the United States.

War, diplomacy, and international tribunals are the three means to arbitrate disputes between nations, and after this terrible holocaust it would seem that it must come to pass that the international tribunal will become the means to settle controversies. It is, I think, safe to say, that in view of the recent experience of the German Kaiser, could he turn back the hand of time to August, 1914, he would have less love for German diplomacy and the principle of might is right, and more for peaceful arbitration. Of course, the very existence of such international tribunals depends on their being just and honourable and in dealing out fair play, uninfluenced by national prejudice, to all interests appearing before them.

This Commission came into existence in 1909 through a treaty then concluded between the United States and Great Britain. One of the most prominent of those interested in the negotiation of the treaty was the late Sir George Gibbon, of London, Ont., to whom great credit is due for his enthusiastic persistence in furthering the object he had in view.



Without enumerating the questions covered by the various articles of the treaty, its work so far has largely been confined to proposed structures in international waters, which on one side of the boundary may affect the level on the other side and thereby possibly do injury to interests on the other side. Previous to the treaty under which the Commission operates such was possible, and the only remedy open to injured interests was through representations made by one country to the other through the slow and uncertain process of diplomacy. Now, that has all been changed as between Canada and the United States. No such structures can now be erected without the consent of the Commission, in addition, of course, to the legal authority of the country wherein the structures are to be built.

The Commission is not to be measured by the number of cases it deals with annually, because its work is more in the nature of a safeguarding tribunal. It is to be judged by a sane determination of questions brought before it without regard to national interests so long as right prevails.

It is not a matter of pitting the wits of one section of the Commission against those of the other. That sort of thing could be done only once and the Commission would go to pieces from within.

At the present time we have two cases before us dealing with the St. Lawrence river, namely:—

(1) The application of the New York and Ontario Power Company for approval of its plans to reconstruct, repair, and improve its dam, hydraulic structures, and water-power property at Waddington-on-the-St. Lawrence river in the state of New York; and—

(2) The application of the St. Lawrence River Power Company, a subsidiary of the Aluminum Company of America, for approval of a permit granted by the Secretary of War of the United States to extend to Long Sault island in the St. Lawrence river, in the State of New York, a submerged weir.

The applicants in the first-named case, which comes up at our October meeting, aver that their title goes back over one hundred years and covers all of the natural flow of Little river, a small channel of the St. Lawrence in New York State, created by Ogden island. The applicants are the owners of a very old dam extending out toward Ogden island upon which in the past several small grist-mills, saw-mills, paper-mills, and so forth, were operating. To-day they no longer exist. For fully seventy-five years a rock-filled bridge, with a small opening, has been in place a short distance above the dam joining the mainland and Ogden island. The applicants claim the right to replace the same with a modern structure which will allow a free passage of water down the channel to the dam. Involved in this application is the effect that the proposed changes will have on the level of the waters at the extension to the Morrisburg canal on the Canadian side. The applicants propose the construction of certain remedial works which they claim will protect the Canadian canal.

The other application, that of the St. Lawrence River Power Company, is for a submerged weir immediately below the company's diversion canal through which it carries water from the St. Lawrence to Massena, N.Y., and from which power is developed and used in making aluminum. The applicants claim that they cannot get full use of the canal in winter due to ice conditions in that part of the St. Lawrence which feeds it. They claim that the proposed structure will improve these conditions, and that in consequence

thereof they will be able to manufacture about six million additional pounds of aluminum this coming winter, which is indispensable in the manufacture of munitions. In consequence thereof, the United States Government, through its War Department, has come forward supporting the applicant's case before the Commission.

We will now take up the matter of the application of the St. Lawrence River Power Company, and I will ask the representatives present to announce their appearances.

(The secretaries stated that the following notice was sent to the press and interested parties on both sides of the line):—

#### NOTICE.

Notice is hereby given that there has been transmitted to and filed with the International Joint Commission by the Government of the United States, the application of the St. Lawrence River Power Company, a corporation organized and existing under the laws of the state of New York, for approval of permit No. 38786/64, granted September 10, 1917, by the Secretary of War of the United States to extend to Long Sault island, by means of a submerged weir, the jetty or deflecting dike in the South channel of the St. Lawrence river at the mouth of its power canal at Massena, N.Y., the said St. Lawrence river being boundary waters within the meaning of the treaty between the United States and Great Britain of January 11, 1909.

By order of the Commission suspending certain of its rules, all statements in response to said application must be filed on or before August 26, 1918.

A hearing of the above-mentioned application will be held at the court house, in the city of Montreal, on Thursday, August 29, 1918, at 10 o'clock, a.m., at which all parties interested are entitled to be heard.

(Signed.) WHITEHEAD KLUTTZ, Washington, D.C.

LAWRENCE J. BURPEE, Ottawa, Canada.

*Secretaries, International Joint Commission.*

The following appearances were announced:—

For the St. Lawrence River Power Company: Mr. George B. Gordon, Pittsburg; Mr. Leighton McCarthy, K.C., Toronto; Mr. Arthur V. Davis, Pittsburg, President of the Aluminum Company of America; Mr. James W. Rickey, Pittsburg, Chief Hydrographic Engineer of the Aluminum Company of America.

For the United States: Mr. George W. Koonce, Washington, War Department; Mr. John C. Churchill, Washington, Corps of Engineers, U.S. Army.

For the Dominion of Canada: Hon. Hugh Guthrie, Ottawa, Solicitor-General for the Dominion of Canada; Mr. Frank H. Keefer, K.C., M.P., Ottawa, counsel; William J. Stewart, Ottawa, Chief Hydrographer of the Dominion of Canada; Mr. S. J. Chapleau, Ottawa, Department of Public Works; Mr. James White, Ottawa, Assistant

to Chairman Commission of Conservation of Canada; Mr. Arthur V. White, Consulting Engineer of the Commission of Conservation of Canada.

For the Province of Ontario: Mr. George H. Kilmer, K.C., Toronto, counsel; Mr. H. G. Acres, Toronto, Hydro-Electric Power Commission of Ontario.

For the State of New York: Mr. Marshall McLean, New York, Special Deputy Attorney-General; Mr. A. H. Perkins, Division Engineer of the Conservation Commission.

For the Montreal Harbour Commissioners: Mr. F. E. Meredith, K.C., Montreal.

For the Montreal Board of Trade: Mr. John Baillie.

For the Shipping Federation of Canada: Mr. Thomas Robb.

Mr. MAGRATH: Mr. GORDON, you may proceed now.

Mr. GORDON: May it please the Commission, at this stage of the proceedings, I would like to present the petition of the St. Lawrence Power Company for permission to amend the title to its application so that it shall read as follows:—

“The company, therefore, most respectfully applies to your honourable Commission for the approval of the construction of the submerged weir in the South Sault channel of the St. Lawrence river which is hereinbefore referred to and particularly described in the plan Exhibit 1 attached hereto and in the permit of the Secretary of War of the United States and the plans attached thereto, all of which constitute Exhibit 2.”

Attention was called at the Atlantic City meeting to the fact that the title of this petition and prayer was improper in that it asked for the approval of the permit of the Secretary of War rather than for the approval of the work itself.

Mr. MAGRATH: Are there any objections to this petition of the applicant for permission to amend its application? There being no objections, the petition to amend is therefore approved.

Mr. GORDON: Mr. Koonce wishes to open first on behalf of the United States, and I will follow him.

#### STATEMENT OF GEORGE W. KOONCE.

Mr. KOONCE: Mr. Chairman and Gentlemen,—I appeared before you in Atlantic City a couple of weeks ago and made a motion that the rules of this Commission be suspended in order that you could take up and hear this proposition immediately. I made that motion on behalf of the Government of the United States. The decision which you reached was highly gratifying to us, as the time that you gave to the hearing of the proposition would give you ample time to pass upon it so that we could get this work done during the present working season.

In response to a question from the learned counsel for the Dominion Government, I stated that I was not there at that time to ask your approval of the proposition; I was simply there to ask you to hear it. I now appear before you representing the Government of the United States to ask with



all earnestness at my command that you give your approval to this project for the sole purpose of assisting and augmenting the output of aluminum so as to meet the war requirements of the United States and its Allies.

In this connection I have a letter to you from the Secretary of War, which I take pleasure in handing you. I think it is unnecessary to say anything more at this time.

Secretary Burpee thereupon read the letter of the Secretary of War, which is copied into the record in full as follows:—

WAR DEPARTMENT, WASHINGTON, AUGUST 23, 1918.

The Honourable

The Chairman of the International Joint Commission,  
Washington.

SIR,—The War Industries Board is apprehensive that the supply of aluminum will not be adequate for the requirements of the Government and of our Allies, and is therefore wisely encouraging the increase of output. The War Department is, I need not say, vitally interested that there shall be at all times an adequate supply of this product to meet the requirements of our military program and of the programs of our Allies.

I am informed that the Aluminum Company of America has made application for a permit to build a submerged weir in the St. Lawrence river near Massena, New York, with a view of increasing the horse-power at that point during the months of January, February and March, to meet the interference in power at Niagara which normally occurs during the winter months. As the proposed weir is in the boundary stream, the permit, which I understand has been received from the United States Government, requires the approval of your Commission. It is believed that no disadvantage to Canadian navigation will result from such a construction.

In view of these facts, may I respectfully urge that this permit receive your approval, if consistent with the practice of your Commission.

Respectfully yours,

NEWTON D. BAKER,  
*Secretary of War.*

MR. GUTHRIE: Mr. Chairman, may I be permitted to make a statement regarding the position of the Government of the Dominion of Canada? It may clear matters up as we proceed.

MR. MAGRATH: You may proceed, Mr. Guthrie.

#### STATEMENT OF HON. HUGH GUTHRIE.

MR. GUTHRIE: The position which the Government of Canada takes in regard to this application by the St. Lawrence River Power Company is stated in general terms in the preliminary clauses of the printed answer or reply which the Government has filed with the International Joint Commission, upon this hearing of the application.

In addition to that general statement I desire, on behalf of the Government of Canada, expressly to state to this Commission, that the Government



of Canada fully realizes and appreciates the attitude assumed by the Government of the United States through the War Industries Board and the Bureau of Aircraft Production in regard to the pending application.

The Government of Canada desires to have it thoroughly understood that it in no way seeks to block, hinder, or delay any essential work of development which may be necessary or conducive to increased production of war material by the United States or by the citizens of that country; on the contrary, the Government of Canada is anxious to assist in every proper and legitimate manner to the end that both the United States and Canada may put forth a maximum of war effort in the present conflict with the least possible delay.

With such purpose and desire firmly and prominently in view the Government of Canada respectfully submits that the present application by a private corporation to construct a submerged weir across the south branch of the Sault Island channel is directly contrary to both the letter and the spirit of existing international treaties; and the application raises questions and involves matters which are the subject of treaty rights and are beyond the jurisdiction of the International Joint Commission to entertain or decide.

The Government of Canada submits that the questions raised in this application have an international scope and bearing, and should be discussed internationally. Such questions are eminently proper for discussion and negotiation between the Governments of the United States and Canada, and particularly so at the present time having regard to the urgent need of greater production for war purposes.

The Government of Canada therefore desires formally to express both its willingness and its readiness to enter upon intimate negotiations and discussions with the Government of the United States of the whole general question of the supply and development of power at the Long Sault Island channels in the river St. Lawrence, and the rights and obligations of the respective countries in regard thereto; and at the same time to enter upon a full discussion with the Government of the United States of the particular difficulty complained of by the applicant company in the pending application, with the view of reaching a speedy solution of the whole power question at the Long Sault Island upon a basis satisfactory to the Governments of both countries.

However, it must be distinctly understood that the Government of Canada in its desire to grant speedy relief and to facilitate the increase of necessary war production does not in any sense admit the right or title of the St. Lawrence River Power Company to divert any of the waters of the river St. Lawrence for any purpose. The Government of Canada takes the position that the applicant company had not now and never has had any valid legal right or authority to construct or maintain its canal or divert water from the river St. Lawrence. But apart from that aspect of the case, and without prejudice to its right at any time hereafter to impeach the right and title of the power company, the Government of Canada is desirous of assisting in a speedy solution of the whole difficulty in the manner I have just indicated.

One other matter I desire to mention. That is in regard to the recent dredging of the Dodges shoal. This work was undertaken by the applicant company without any notice to the Government of Canada; only on

Friday last did the Government become aware of it. As the effect of this dredging work has been, and will be, to materially lower the water level on the north side of the river St. Lawrence, the Government desires to enter its protest before this Commission that such a work was done by the company without any reference to Canada and without any authority from or approval by the International Joint Commission. The Government of Canada has at the present moment under consideration the question of making representations to the Government of the United States with reference to the dredging of Dodges shoal. The Government of Canada in no way consents to it; in no way ratifies or approves it tacitly or otherwise.

MR. MIGNAULT: Mr. Koonce, I think there was an understanding at Atlantic City that you would put in the other two permits which the company obtained from the Government of the United States. There was one for the dredging and the other for the construction of the ice boom.

MR. KOONCE: Mr. Gordon, have you those permits?

MR. GORDON: Those permits are here, and will be offered.

MR. MAGRATH: It is suggested, gentlemen, that I call for a statement from the State of New York. Is there any one here to make a statement on behalf of the State of New York?

#### STATEMENT OF MARSHALL MCLEAN.

MR. MCLEAN: May it please your honourable Commission, the State of New York received no notice of this application until your Commission directed that a communication be sent to the governor on the 13th of this month. The governor received that communication and acknowledged it on the 19th. Under our New York statute, matters connected with waterways and development of power are in the control of the Conservation Commission. The governor thereupon referred your communication to the Conservation Commissioner, the Hon. George D. Pratt, and he designated myself and Mr. Perkins to appear here. We had at that time no copy of the preliminary hearing that was had before your Commission at Atlantic City and were absolutely ignorant of the questions that were to be raised. For that reason no formal objection or answer or reply—whatever technical name may be proper—has been filed. It is possible, therefore, that I am entirely out of order in raising any points here, but, as I understand that the exigencies of the case have influenced your Commission to waive some of the technical rules, I hope it may be possible, if such a written reply is necessary, that you will permit such to be filed on behalf of the state of New York.

The particular points that I would like to raise are simply these: If this be essentially and absolutely a war measure, the State of New York stands in every respect ready, anxious, and willing to co-operate to the fullest extent in the winning of this war. There are certain fundamental rights involved between this company and the State of New York which we believe this application attacks. The proposed structure, while calling for a submerged weir, appears to us to be, in fact, calling for a dam placed across a channel that I think the consensus of opinion will determine is a navigable channel of the St. Lawrence river and, therefore, in the boundary waters. According to the statements made at the preliminary hearing, it will absolutely destroy the navigation of the South Sault channel.

At page 44 of the preliminary hearing I find the following statement by Mr. Rickey, who, I understand, is the engineer for the power company, in answer to a question by Mr. Powell:—

Mr. Powell: Have you considered the propriety of having an opening in it which would do for vessels going down stream?

Mr. Rickey: That is impracticable, because there will be so little water going over the weir. There will be about five thousand or six thousand second-feet passing over the weir. That will not be sufficient depth of water below it.

I am informed that there are about fifty-five thousand second-feet passing down this south channel, and that the power canal, the Massena power canal, as it is called, takes about twenty-seven thousand second-feet, the balance still continuing down the south channel. If the erection of this weir will cut off all the water from that south channel except five thousand or six thousand second-feet, it will mean that fifty thousand second-feet are there available for the storage canal. That means an increase in the water that will be diverted. It means an absolute cessation of the navigation in that south channel. That is important, from our state standpoint, because the state has recently, through its officials, adopted the principle that while it wishes to co-operate to the fullest extent with the legitimate development of water-power, it must insist that in that development the rights of the citizens of the state should be respected, and that probably the most adequate way in which those rights may be protected will be in an absolutely fair rental system to the state.

Those are some of the questions that are involved in this matter. Those, as I said, are perhaps questions more particularly between the company and the State of New York. Yet if relying upon any approval that this Commission should give to this company, which is a private corporation, to divert these waters, the great danger from our state standpoint is that they might say that they had acquired a priority right in any structure that they have placed there.

I am going to assume that the United States Government has carefully examined into the merits of this question. I am going to assume that when Mr. Koonce stood here and told you that the United States Government urged upon you to grant this consent, that the United States Government had acted with full knowledge that this is in reality merely an application to increase the efficiency of this company and not an application to increase its right under its charter, or to acquire a greater power development. Therefore, I am only going to ask if your honourable body should grant this permit, and I think you could grant it conditionally—that this permit be granted for the period of the war and for no longer; and if it be possible—and I think it probably is possible—the further condition be made that the title to any structure erected remain in the State of New York. Will it be necessary to file any written statement of that?

Mr. MIGNAULT: It would be necessary to do so, but as your notice was so short, you can give us the substance of what you desire to put in, and file the statement during the meeting. I fancy this meeting will not be over to-night, so you will have opportunity to put it formally before the Commission, as, in accordance with our rules, it should be printed.

Mr. MAGRATH: The printing of the statement, of course, will be waived under the existing circumstances.



Mr. MIGNAULT: But it will be finally printed as a part of the record.

Mr. McLEAN: May I call the attention of the Commission to this fact: This company is operating under a charter granted by the legislature of the state of New York. That charter provides that they may erect certain structures, but not interfere with the navigation of the St. Lawrence river. That is a provision in their charter itself.

Mr. KOONCE: Mr. Chairman, probably this matter may be simplified, and any contest on the part of the state of New York eliminated by a further statement from me. There are two aspects of this question—the domestic and the international. The domestic question is one that pertains to the United States and to the states of the United States, and to the citizens of the United States. That domestic question is one that is recognizable in the courts of the United States. So far as the rights which this company has from the State of New York, are concerned, or so far as any invasion of the authority and power of the State of New York is concerned, those things are purely domestic. The State of New York can go into the courts of the United States or the courts of the states and enforce any rights they have, or obtain redress for any wrongs that are sustained. I submit that the question of the relative rights between the company and the state of New York are not for your consideration. You have often decided that you would not go into questions of states' grants and states' rights and things of that kind, but you would confine yourselves to the international aspect, which is the effect upon international navigation and upon the rights of our friends in Canada.

I may observe that the State of New York has no power over navigable waters in the United States. That power rests in Congress, and is embodied in a code of laws passed by Congress. Those laws confer upon the Secretary of War the authority to grant permits and authorize constructions in the navigable waters of the United States. Now, this permit which the Secretary of War granted for this submerged weir protects every right which the State of New York has.

Mr. TAWNEY: Mr. Koonce, if you will pardon me for interrupting you, the issue, if there is any, between the Government of the United States and the State of New York more properly may be discussed after all the evidence is in.

Mr. KOONCE: My idea was to simplify the matter by convincing you that you could eliminate this thing in the beginning. You are not concerned about the contentions between the state of New York and the power company. Those are things that can be settled under the laws of the United States and the State of New York. This permit which the Secretary of War granted states the specific condition that, "it does not authorize any interest to private property or invasion of private rights or any infringement of federal, state, or local laws or regulations; nor does it obviate the necessity of obtaining state assent to the work authorized." If this company has not got authority under the State of New York to do this work, that permit does not give it to them. It is a question between them and the State of New York, and any rights that the State of New York wants to enforce it can enforce under the laws of that state. I submit that this question is one that you should eliminate in the beginning, and that you should confine yourselves to international aspects of the case, that is, the effect upon the interests of Canada.



You know this same question arose in the application of the Algoma Steel Corporation with reference to the dam in the St. Marys river, and your distinguished former member, Mr. Casgrain, went into it quite thoroughly and expressed your decision in a very clear and conclusive manner. This is what he said:—

“Some question was raised during the argument as to the right of this applicant, in view of the position taken by the Ontario Government”—which is similar to our state government—“to take the water which belongs to the province and build upon the land which is also within the provincial domain. With that question we have nothing to do. The applicant comes before us with plans approved by the Government of the Dominion”—just as we come before you here with plans approved by the Government of the United States—“and asks us under the treaty to approve of the diversion and the construction which it contemplates. . . .

This does not mean, however, that a party may appear before the Commission, and, by obtaining an order of approval of its plans in the case of a diversion or obstruction take the land of another without conforming to the common law of the country.”

So in the present instance, before the applicant can use the approval which it obtains from this Commission it will, if the necessity of the case arises, be obliged to treat and settle with those whose property right it encroaches upon, and your approval of this will not prevent the State of New York from enforcing any rights or compelling any invasion upon its right that this company demands to take from it.

MR. MIGNAULT: Mr. Koonce, would it not be convenient for that to be considered as a matter of argument after the evidence is in?

MR. KOONCE: You have decided that, Mr. Mignault. That was your decision in that case. You made exactly the same sort of decision in the St. Croix dam case. You said that those matters affecting the water rights of private companies were of a domestic character, and you had no business inquiring into them and no means of settling them. You are simply to confine yourselves to the rights of an international character between the two countries.

MR. MIGNAULT: We will certainly consider everything you say, Mr. Koonce, but it seems to me that the proper time to make your contention is when we come to the argument. Then we will hear you and give full consideration to what you have to present. I just state this because I think we would be losing time if we should go into all these points before the applicant has regularly proceeded with his evidence. It may be that this evidence may disclose something which may have a material bearing on our actions.

MR. McLEAN: At that time I would like to have the opportunity of replying to the arguments of Mr. Koonce, because I cannot consent to the point he makes.

MR. POWELL: There is a preliminary question; Mr. Guthrie, you have raised, and that is with respect to our jurisdiction. Do you wish us to discuss that as a preliminary matter, or take it up with the whole case?

MR. GUTHRIE: I am certainly glad to rise and argue that question. I think probably there is enough before the Commission now to satisfactorily

dispose of it, but I do not know that it can come up in evidence in such way as to affect your decision.

Mr. POWELL: Nothing that could come up in evidence could affect our decision upon the point of whether or not we have abstract power to deal with it.

Mr. MIGNAULT: Mr. Guthrie, is not your point based on the Webster-Ashburton Treaty?

Mr. GUTHRIE: Well, it is based on both treaties. I can state it briefly.

Mr. MIGNAULT: Do you go further than to say that the Commission is bound by the treaty? Do you claim that we have no jurisdiction whatever to even give effect to the treaty by refusing the application?

Mr. GUTHRIE: No; I do not go so far as that. There are certain things that this Commission can do and certain things which it cannot do.

Mr. POWELL: The only point is this: Do you wish us to consider it now as a preliminary step?

Mr. GUTHRIE: I think we could consider it now; just as it suits the Commission, however. It certainly goes to the root of the matter.

Mr. TAWNEY: Personally I think its consideration should be deferred until the final discussion after the evidence has been presented. If it does not make any difference to the Solicitor General of Canada, I should say that the most appropriate time would at the conclusion of the hearing in connection with the argument of all the other questions that are involved in the case.

Mr. GUTHRIE: Just as the Commission decides.

Mr. MIGNAULT: I have always made it a rule, Mr. Guthrie, as counsel, not to argue my case before the evidence is in. I have found that the evidence might have a material effect upon the opinion of the court.

Mr. POWELL: This is not a matter of evidence at all.

Mr. MCCARTHY: Is it your contention that the Commission has no jurisdiction?

Mr. GUTHRIE: It has no jurisdiction.

Mr. MCCARTHY: Is it not rather that you are asking them to construe the treaty so as to prevent the approval of the permit?

Mr. GUTHRIE: It is not.

Mr. POWELL: Then, it is agreeable to all to go ahead and consider the matter when the evidence is in?

Mr. GUTHRIE: Whichever way the Commission desires, it is agreeable to me.

#### STATEMENT OF GEORGE B. GORDON.

Mr. GORDON: The St. Lawrence River Power Company is here before the Commission with an application for the approval of the construction of a submerged weir in the South Sault channel of the St. Lawrence river, near Massena, N.Y. I take it that the questions involved in this application are easily stated. The Secretary of War of the United States, under the authority given to him by Acts of Congress of the United States, has passed upon all the questions that relate to the right of the St. Lawrence River Power Company to build this dam, and has expressed the opinion of the engineers of the United States that this proposed weir will not interfere with the navigation of the St. Lawrence river. As far as the judgment of the United States Government is concerned, this question is

settled. We come before this Commission under article III of the treaty, and, as required by the permit of the Secretary of War, we ask this Commission to approve the structure in the St. Lawrence river.

The jurisdiction of this Commission, I take it, and the questions that this Commission is to determine in approving or disapproving this structure are expressed in article III of the treaty. That question is whether or not this structure affects the natural level or flow of boundary waters on the other side of the line.

Now, the question we have here to-day is, in a technical sense, a question of whether this submerged weir is going to materially and seriously affect the level of the waters on the Canadian side of the line, because the question of the level of the waters on the American side of the line and the way that affects the citizens of the United States has been already passed on by the engineering department of the United States, and approved by the Secretary of War.

The question that is involved in this case is a question, I take it, in the first place, of the necessity of this thing, because that comes into consideration necessarily in a discussion of its materiality. When you think of the word "materially" as applied to the effect upon the Canadian waters, it leads you to the question of the relative importance of the two works; and I think we shall show you by evidence that cannot be controverted—and I do not think from what I have heard from the learned gentlemen on the other side that it is going to be seriously controverted—that there is a very pressing present necessity for the construction of this submerged weir, if the submerged weir will help with the ice situation next winter. Therefore, I shall attempt to show you, by evidence that I think will be satisfactory, that the construction of this submerged weir in connection with the dredging at Dodges shoal, which has been spoken of here, will have the effect of enabling this large plant of the Aluminum Company of America at Massena to run during the three winter months with a very increased efficiency, and in that respect it will produce some six million or seven million additional pounds of aluminum every year during the course of the present war, and that those six or seven million pounds of aluminum are going to go to the Allies to be used in the conduct of the war.

The next question is, does that weir injuriously affect the level of the water on the Canadian side of the river? I think that question is one that you will be satisfied with when you have the evidence. This weir, we expect to show you, will not have any injurious effect upon the level of the water upon the Canadian side of the river. The effect there, if any, will be negligible; it will be a few inches one way or the other according to the stage of the water; and when we have convinced you of that fact and convinced you of the fact that navigation will rather be improved in the St. Lawrence river as a whole by the influence of an increase of water at certain low stages on the Canadian side, I think we shall have shown you such a case as will lead you to come to the conclusion that this application ought to be granted.

I do not think it is necessary for me at this time to attempt to answer the suggestions that have been made on the other side of the case bearing upon the question of conservation, bearing upon the question of whether, and to what extent, this is going to affect navigation from the South Sault, further than to indicate to you what our evidence will show. We shall show you that



there is no navigation in the South Sault at this point. Navigation means, I take it, within the meaning of this treaty, some substantial thing. It does not mean a mere sport. It is not comparable with the case of man who goes over Niagara Falls in a barrel and still lives. That does not prove that Niagara Falls is navigable. And when you come to the South Sault we shall show you that in years gone by there were some boats that did go through the South Sault, and occasionally a motor boat goes through the South Sault to-day; that is, a man takes his motor boat and goes down there once and he never does it again; his sporting instincts have been satisfied, but there is not, and has not been for eight or nine years past, any navigation through the South Sault, and there is no reason for there being any navigation through the South Sault. We shall show you that all the trend of practical navigation on the St. Lawrence river is toward larger boats and bigger vessels of deeper draught, and you have to have things like the Cornwall canal by which the commerce of the country can really be carried. Neither the North Sault nor the South Sault is of any real substantial value to the navigation of the St. Lawrence river. The only Sault that is now used is the North Sault and, if anything, there will be a little more water in the North Sault after this weir is built than there is at the present time.

The conservation question I shall not attempt to refer to in any way in the evidence, because I do not think it is involved in this present application before the Commission. I think it will incidentally take care of itself as the discussion of the case and the presentation of the witnesses go on. The practical effect, we shall show you, of the building of this weir will be that the power company will need less water to run to its full capacity than it does now, so there is not any present diversion of water, and we have no intention of constructing any additional works there that will require more water.

I trust that after we have presented our evidence you will be convinced that this application does not injuriously affect the water levels on the Canadian side, and, therefore, it ought to be granted, particularly at this time when every ounce of aluminum means perhaps many lives on the Western Front. It is a question of such paramount importance that it has to be looked at in rather a broad way. It is not a case where one can afford to be frightened by things that men may imagine or think may occur in the future. It is a question of the present situation that we have to deal with. Shall I proceed now with my witnesses?

Mr. MAGRATH: Yes.

Mr. GORDON: I take it that it is not necessary for me to offer, although I have them here, the title deeds and charters of the St. Lawrence River Power Company, because there does not seem to be any issue raised here in any of the papers that I have read as to the powers of the St. Lawrence River Power Company.

Mr. TAWNEY: I have not had the opportunity yet of reading the statement in response on the part of the Dominion Government. Do they raise any issue whatever as to your title?

Mr. GORDON: No question is raised in that paper as to the title.

Mr. TAWNEY: I gathered from the statement of the Solicitor General that the question of the legality of the structures is raised.

Mr. MCCARTHY: That is an issue, but as to the mere title to the land there is no issue raised.

Mr. GORDON: I have all the papers here, but I do not wish unnecessarily to encumber the record.

Mr. TAWNEY: I would not present them at this time. If it becomes necessary in the course of the hearing to present them, you may offer them.

Mr. KEEFER: The statement of the Solicitor General, which was filed this morning, expressly says that it does not admit the right of this company to divert any water from the St. Lawrence river. It had better be proved if they have any right.

Mr. GORDON: I did not take it that that was a denial of the fact.

Mr. KEEFER: There is no denial of the fact that you are taking the water, but there is a denial of your right to take it. It does not in any sense admit the right of the St. Lawrence River Power Company to divert the waters of the St. Lawrence river for any purpose.

Mr. KOONCE: On what grounds?

Mr. KEEFER: We are not bound to admit.

Mr. KOONCE: Of course, you are not.

Mr. McLEAN: In our offer to negotiate we do not admit that there is any legal right at the present time, or that there has been in the past, on the part of the company to take this water. It is for my learned friend, I assume, to make out his own case.

Mr. GORDON: The view I take of it is that the Secretary of War has granted us the permit, and our right is not denied; they simply say that they do not admit that we have the right. Our title to take this water starts back with the acts of the Legislature of New York, with the ownership of the land in fee, with a corporate organization, and with the permit of the Secretary of War. That is our right to build this weir. I am not talking about the right to divert water. I am talking about the right of this company to build a weir in the St. Lawrence river. Any property owner on the St. Lawrence river, I take it, can build a weir or pier or dike in a navigable stream if he gets the consent of the Secretary of War.

Mr. McLEAN: Does not that apply only to the waters of the United States?

Mr. GORDON: Yes.

Mr. McLEAN: Is not this international water?

Mr. GORDON: Now, we come before the Commission with a permit from the Secretary of War who has decided that question, and the question before this Commission is whether or not the exercise of that permit is going to injuriously affect the waters on the Canadian side of the river. I have not any objection to going ahead and putting in all this evidence, but it does not seem to me that this Commission need concern itself with it.

Mr. McLEAN: Put in your charter.

Mr. GORDON: Certainly; I was just trying to save a little space.

Mr. McLEAN: Do not read it, but just formally put it in.

Mr. GORDON: I will offer in evidence, then, a certified copy of the Act of the legislature of the State of New York entitled, "An Act to incorporate the St. Lawrence River Power Company at Massena, St. Lawrence county, New York, approved May 9, 1896, being chapter 484 of the laws of that year.

(Applicant's Exhibit 1.)

I also offer an Act supplementary to that Act, approved by the Governor of the State of New York, April 26, 1898, being chapter 542 of the laws of that year.

(Applicant's Exhibit 2.)

I also offer a deed from J. Depeyster Lynch as special master and others to Martin T. Cox, dated November 24, 1902, by which all the property rights and franchises of the St. Lawrence River Power Company, of Massena, N.Y., were conveyed at master's sale to Martin T. Cox. That is the original deed, and I will ask leave to substitute copies for the original.

(Applicant's Exhibit 3.)

I also offer a deed from Martin T. Cox and wife to the St. Lawrence River Power Company, dated January 13, 1903, by which all those property rights and franchises were conveyed to the St. Lawrence River Power Company in pursuance of the statutes of the State of New York. I will ask leave also to substitute copies for the original.

(Applicant's Exhibit 4.)

I also offer in evidence a certified copy from the Secretary of State of New York of the articles of association of the St. Lawrence River Power Company, the present corporation, which, without stopping to read, you will see recites the authority of the State of New York to purchase at this sale and to organize a new corporation with the same rights, privileges and franchises that were held by the old corporation.

(Applicant's Exhibit 5.)

I have also here a series of deeds which show the title to the fee on both sides of the river at the point of this improvement.

#### TESTIMONY OF ARTHUR V. DAVIS.

Arthur V. Davis, having been duly sworn, testified as follows:

Mr. GORDON: Where do you reside?

Mr. DAVIS: Pittsburgh, Penn.

Mr. GORDON: What is your position with the St. Lawrence River Power Company?

Mr. DAVIS: I am President of the St. Lawrence River Power Company.

Mr. GORDON: What is your position in the Aluminum Company of America?

Mr. DAVIS: I am also President of the Aluminum Company of America.

Mr. GORDON: Who owns the stock of the St. Lawrence River Power Company.

Mr. DAVIS: The Aluminum Company of America, indirectly. The stock of the St. Lawrence River Power Company is owned by the St. Lawrence River Securities Company, and the capital stock of the St. Lawrence Securities Company is in turn owned by the Aluminum Company of America.

Mr. GORDON: There are no outside stockholders whatever in the St. Lawrence River Power Company?

Mr. DAVIS: Neither in the St. Lawrence River Power Company nor in the St. Lawrence River Securities Company, other than the qualifying shares issued to the directors.



Mr. GORDON: And for the purposes of this proceeding we might say that the St. Lawrence River Power Company is a subsidiary corporation of the Aluminum Company of America.

Mr. DAVIS: That is correct.

Mr. GORDON: How long have you been connected with the Aluminum Company of America?

Mr. DAVIS: Since 1888.

Mr. GORDON: That was about the time of its original incorporation?

Mr. DAVIS: That was its beginning.

Mr. GORDON: It is an incorporation of the State of Pennsylvania?

Mr. DAVIS: Yes.

Mr. GORDON: Where has it its principal office?

Mr. DAVIS: In the city of Pittsburg.

Mr. GORDON: What is its business?

Mr. DAVIS: Its business is the manufacture and sale of aluminum.

Mr. GORDON: I wish you would state where its activities are principally carried on.

Mr. DAVIS: It owns and operates mines in Arkansas, Georgia, Alabama, and South America. It owns, and operates, through its subsidiary, a large plant at East St. Louis, Ill., for the refining of this ore which it obtains from the mines just referred to. This ore when thus refined is sent to the electric smelting plants at Shawinigan Falls, Que.; Massena, N.Y.; Badin, N.C., and Maryville, Tenn. Some of these plants are operated under the name of the Aluminum Company of America, and others under the name of the subsidiary companies, but in each instance the subsidiary company is owned in toto by the Aluminum Company of America. The Aluminum Company of America also pursues its activities further in the fabrication of aluminum, and it has its fabricating plants for the manufacture of sheets and wire and finished goods at Shawinigan Falls, Que., Toronto, Ont., Massena, N.Y., Niagara Falls, N.Y., and New Kensington, Penn., Edgewater, N.J., and several other places where the works, however, are of less importance than the works at the places I have mentioned.

Mr. GORDON: Are you acquainted with the present status of the aluminum business in the United States and in the Dominion of Canada?

Mr. DAVIS: I am.

Mr. GORDON: Is there any other source of the production of aluminum in the United States and the Dominion of Canada than the works you have referred to?

Mr. DAVIS: There is not.

Mr. GORDON: What is the present condition of the aluminum trade with reference to supply and demand in Canada first, in the United States in the second place, and then the trade generally?

Mr. DAVIS: The output of aluminum since the entry of the United States into the European war has been devoted in increasing quantities to munitions in various forms, so that the ordinary domestic lines of consumption have been and are practically shut off from any supply of aluminum whatever. The demands for aluminum by the United States Government and the Allied Governments are constantly on the increase, and it is apprehended that this increase in the next six months will be very substantially accentuated.

Mr. GORDON: Can you give us the figures, Mr. Davis, as to the present production of aluminum and what that aluminum is being used for?

Mr. DAVIS: The present production of aluminum in North America, in other words, in Canada and the United States, amounts to about 150,000,000 pounds per annum.

Mr. GORDON: I expected you to go into more details—what is the present distribution of that between the different Governments? Can you give us any idea of where that 150,000,000 pounds goes to; what is it used for?

Mr. DAVIS: In the year 1917, 40 per cent of the entire output of Canada and the United States was used by the United States and the Allied Governments, on what are termed technically, by our Government, direct and indirect orders. That is to say, direct orders being orders placed with the Aluminum Company of America directly by the Government itself, and indirect orders being such orders as are placed with the Aluminum Company of America by certain parties who use the aluminum thus produced for the fabrication of munitions, or other material, on direct government orders to them. Starting then, with 40 per cent of this output in the year 1917, which was the first year of the entry of the United States into the war, the orders placed with the Aluminum Company of America, in the first six months of this year, amounted to 121 per cent of the output, while for the month of July of this year such orders amounted to 135 per cent of the output. We are confronted then with an increase over last year, for consumption by the Allied Governments, from 40 per cent up to 121 per cent for the first six months of this year, and up to 135 per cent in the seventh month of this year. It is needless for me to say that if the orders continue, even at their present rate, it is quite impossible for any corporation to ship 135 per cent of its output. The present situation, however, bad as it is, is not the main cause of the anxiety on our part and on the part of the interested officials at Washington, but it is the future over which we are most apprehensive.

The United States is just now embarking upon, as we all know, a very radical enlargement in the number of men it will send overseas. We have now about one and a half million men, and it is contemplated that within the next year we will have four and a half million men, which means that within the next year an equipment equal to three times the equipment already provided must be obtained, and if it is to be done and placed in the hands of these men next year the material must leave our hands within the next few months, as this material, as we turn it out, is to a very large extent the raw material, and has to be still further fabricated.

But perhaps the most important and crucial situation with which we are confronted is the aircraft programme. Up to date the United States has not made, as we all know, a very large number of airplanes, but fortunately this situation is just now being remedied. While I am not familiar with the production of finished planes, and have no authority to speak for the aircraft department, I take it that I can say something about the production of these parts of aircraft motors which are made from aluminum. There has been a very sincere effort on the part of all the manufacturers in the United States to bring the aircraft programme up to what we term a manufacturing proposition, and we know that in the last

six weeks, and with the very hearty co-operation of the manufacturers in the Detroit district, we have been enabled to produce the aluminum parts for approximately 200 motors a day, as compared with eight, or nine, or ten motors a day prior to that time.

Each motor requires over 300 pounds of aluminum, but in addition to the weight of aluminum in the motors themselves there is a very large amount of aluminum in tubes, rivets, and so forth in the plates, and also in other parts of the subsidiaries to the engine itself. It seems, therefore I may say, and I am sure that this statement would be confirmed by the officials at Washington, that while the actual orders have not yet been placed for this very enlarged programme, they will shortly be placed and that it will be necessary, not only to curtail the amount of aluminum that goes into other important munition lines, in order to give the greatest amount possible to this probably most important line, but it will be, by all means, necessary for the Aluminum Company of America to use every means at its disposal to increase its output. And it was simply this situation which actuated us in asking for permission to build this weir, which will give us an opportunity to increase the amount of aluminum which we make in the months of January, February and March, and will ensure a continuance of our supply, not only during these three months but during other months in case of any accidents.

Mr. GORDON: What do you estimate will be the increased output of aluminum as a result of the construction of this weir?

Mr. DAVIS: I might answer that question by reversing it. The decrease in production due to the ice conditions at Massena average about six million to seven million pounds a year, and if this remedy is as complete and as efficient as our engineers tell us it will be, this decrease will not take place in the year 1919, if we receive permission to build this weir from all the proper authorities, in ample time to finish the work before winter sets in.

Mr. GORDON: What will be done with this six or seven million pounds of aluminum. Who gets it?

Mr. DAVIS: The Allied Governments.

Mr. GORDON: Is there any other way that the Aluminum Company of America can get an increased capacity of this six or seven million pounds for the coming winter?

Mr. DAVIS: There is none that I know of.

Mr. GORDON: In that connection I wish you would state to the Commission, in a general way, how long it takes to build one of these water-power aluminum plants, even if you could find a site for it.

Mr. DAVIS: To build an ordinary hydraulic plant of say forty or fifty thousand horse-power, which is about as small as one could contemplate for aluminum purposes in these days, assuming that one already has the land, the riparian rights, and proper authority from whatever governmental powers might be required, two years would be the minimum, and three years nearer the average.

Mr. GORDON: Upon whom do the United States and Canadian Governments depend for their aluminum?

Mr. DAVIS: Upon the Aluminum Company of America and its subsidiary companies. During the early years of the war, before the entry of the



United States into the war, the British Government naturally looked to the plant at Shawinigan Falls to produce the aluminum it required.

In the year 1915 the British Government took 22,000,000 pounds of aluminum, which was about 4,000,000 more than was made in Canada. In the year 1916 and in the year 1917 the British Government took 26,000,000 pounds of aluminum and 24,000,000 pounds, respectively, which was again considerably more in each year than the output in Canada for that year. It was this situation which caused the British Government to prefer to buy directly from the Aluminum Company of America, rather than from its Canadian subsidiary, and the purchases since the year 1917 have been made by the British Government directly from the Aluminum Company of America, because the British Government realized that it was necessary for them to buy more than was being made in Canada.

Mr. TAWNEY: Is the raw material available, and are your facilities for handling of sufficient capacity, to meet the increased production which you say will result as the effect of the construction of this weir, during the months of January, February, and March?

Mr. DAVIS: Certainly, sir. The increased production which will be obtained in the months of January, February, and March, would be obtained simply by operating the same plants which during the other nine months of the year are being operated. If we do not get this submerged weir built, and the ice shuts us down as usual, our facilities will simply stand idle during these three months, and be no good to anybody.

Mr. GORDON: You spoke of the conditions in the United States and Great Britain; do you know what the situation is as to aluminum in France and Italy?

Mr. DAVIS: The French and Italian Governments seem to be looking to us, through the War Industries Board, for constantly increasing amounts. For instance, in 1917, France and Italy called upon us for two and three-quarter million pounds, while during the first half of 1918 they called upon us for 15,000,000 pounds, an increase of nearly six times.

Mr. GORDON: Do you know of any other source of production of aluminum abroad from which the Allies could get any additional quantity?

Mr. DAVIS: The company in England and the five associated companies in France, and the company in Italy, together with two manufacturing plants in Norway, which are, however, controlled one by the English company and the other by a French company, constitute the only other source of supply of aluminum for our European Allies. All of these companies are manufacturing every pound it is possible for them to manufacture, and though they are all making every effort to increase their output, and have succeeded to a certain extent, there is no possibility of any substantial increase within the next three or four years.

Mr. MAGRATH: Is this evidence of a character which should be made public?

Mr. DAVIS: That is a matter as to which I am hardly competent to judge.

Mr. MAGRATH: Would you think that these Governments would object to this information being made public. It is given here in the presence of the press, and if it is to be made public we ought to know?

Mr. TAWNEY: I cannot see any objection to it.

Mr. MAGRATH: Do you see any objection, Mr. Davis?

Mr. DAVIS: I do not think there is any objection to its being known among our own people. What effect it would have upon the Germans, if they would get to know, I cannot say.

Mr. MIGNAULT: It may be assumed, I think, that we all appreciate the importance of aluminum for the prosecution of the war.

Mr. TAWNEY: Is not this a matter of public record in the United States. Do you think there is any objection from the standpoint of our Government, to its being known? I refer to the evidence that is being presented now. Do you know of any objection on the part of the Government of the United States to its being presented?

Mr. KOONCE: I do not know of any. I do not think the information is sufficiently definite to be of any particular importance to the enemy.

Mr. POWELL: I do not think there is much danger of giving the Germans any information on these matters. They have had it all through their consular channels years ago.

Mr. GUTHRIE: Would there be any objection on the part of your company if this proposed weir were constructed by the Government of the United States or by the Government of Canada, or by both Governments conjointly, provided it were done expeditiously?

Mr. DAVIS: I am hardly able to answer that question without further premises.

Mr. GUTHRIE: In what way can you not answer it—as I understand it, it is a weir that you want for the purpose of removing an existing difficulty?

Mr. DAVIS: Precisely.

Mr. GUTHRIE: Now, would there be any objection to the construction of the weir as a government work by the Government of the United States, or by the Government of Canada, or by both Governments?

Mr. DAVIS: So far as accomplishing the good I have referred to, it would, of course, be immaterial as to who constructed it.

Mr. GUTHRIE: Would you be satisfied then if the construction were done in that way and, of course, done expeditiously?

Mr. DAVIS: We perhaps would be satisfied, but we question very much whether it would be practicable to get it done in that manner.

Mr. GUTHRIE: And you would be satisfied to have it done that way if it were practicable to do it?

Mr. DAVIS: If it would accomplish the same result, no doubt it would—

Mr. GUTHRIE: It would be the same weir?

Mr. DAVIS: It would be the same weir.

Mr. TAWNEY: Is it not a fact that before that could be done an appropriation for that purpose would have to be obtained from Congress?

Mr. DAVIS: And it is a thought just along that line which made me say that we had never considered that practicable. We want to get this weir done by the first of December. It seems to me it would be an utter impossibility for negotiations to be conducted and preparations made, and the work finished, if it is to be done in any other way than by our company.

Mr. GUTHRIE: That is only qualifying the proposition—I am putting the question in this way: if it were done by the Government or by the two Governments conjointly, would it be satisfactory?

Mr. DAVIS: I have already answered that question.

Mr. KEEFER: Is there not a large appropriation of \$200,000,000 in the United States for the purchase of water-powers? I think I saw that statement in the public press.

Mr. KOONCE: That is a Bill which has been introduced, and it may take two years to get it through. As Mr. Tawney has remarked, the only way the Government of the United States could do anything in the way of building this weir would probably be to exercise the war power and commandeer it. But that has not been the policy of the Government. Where we find manufacturers willing to put forward their own money, and own efforts, and own energy, to speed up production, we encourage them to do that, and we do not wish to interfere with private corporations, and to change that policy other than as a matter of commandeering would require that the project should be submitted to Congress and there no doubt would be a lengthy discussion and consideration by that body, and by that time probably it would be too late to beat the Germans, and we would not need it.

Mr. MEREDITH: If I understand you rightly, Mr. Davis, the only reason that you want a submerged weir is on account of the extra amount of aluminum you are going to supply to the Allies, is that true?

Mr. DAVIS: The only reason that we want that weir is in order that we may make more aluminum, and our immediate demand for aluminum is for the Allied Governments. But this same diminution in output occurs in times of peace as well as in times of war, and naturally it is desired by us to be able to operate our plants at all times.

Mr. MEREDITH: I quite understand that, but in reading the petition of your company—of which I understand you are the general manager, are you not?

Mr. DAVIS: I am president.

Mr. MEREDITH: And in listening to your evidence, which I need hardly say is very complete and able—I remember you in a case before where you gave similar able evidence—I thought that the real reason you wanted to construct this submerged weir was solely, or practically solely, because you had to supply, or you wanted to supply, more aluminum to the Allied Governments on account of the war, and that this aluminum was going to go to the United States and her Allies. Am I wrong in that?

Mr. DAVIS: You are not wrong. We want to make more aluminum for our customers, and at the moment our customers are the Allied Governments, and we have no other.

Mr. MEREDITH: So that if war can in any sense be said to be fortunate, it is a very fortunate thing for your company that you have this excuse to come before the Commission and ask for this submerged weir which will enable your company to turn out very large quantities of aluminum, not only for the allies but for your general customers.

Mr. DAVIS: I do not know that you would call it exactly a fortunate episode. It is not of very material importance to us, you know, whether we make this 6,000,000 pounds here or whether we make this 6,000,000 pounds elsewhere. If we should desire, as we do desire, to make 6,000,000 pounds additional, and take our own good time about it, we would as soon make it in one place as in another. But we cannot make 6,000,000 pounds more this winter in any other place than in this place.



Mr. MEREDITH: Then this petition to this Commission is for a submerged weir which, so far as your company is concerned, you wish to have for all time; not only during the war but for all time?

Mr. DAVIS: Yes, sir,

Mr. MEREDITH: I may be wrong, but I understood that your output in 1917 was 150,000,000 pounds?

Mr. DAVIS: Approximately, yes.

Mr. MEREDITH: Of which 40 per cent was used in munitions, is that true?

Mr. DAVIS: In munitions, in a broad way, including equipment for canteens, cooking devices for the army, and so on?

Mr. MEREDITH: What percentage of your output went to the Allies direct?

Mr. DAVIS: Do you mean the Allies of the United States or the Allies of Canada?

Mr. MEREDITH: Take it for the two periods; take it for the period when the United States was not in the war, and for the period after.

Mr. DAVIS: In the year 1917, approximately one-half of the amount that was required for the Allied Governments was required by Governments other than that of the United States.

Mr. MEREDITH: That was 20 per cent of your output?

Mr. DAVIS: Approximately.

Mr. MEREDITH: And since the United States came into the war?

Mr. DAVIS: The United States was in the war in 1917.

Mr. MEREDITH: Then that 20 per cent is 20 per cent of the output direct to the Allies?

Mr. DAVIS: Direct to the Allies, yes.

Mr. MEREDITH: Then there is an indirect supply?

Mr. DAVIS: That includes both the direct and indirect.

Mr. MEREDITH: When you supply it directly what precautions are taken to make sure that these indirect demands have the authority of one of the Allied Governments?

Mr. DAVIS: The indirect orders for all of the Allied Governments are practically nil. The British Government, the French Government, and the Italian Government buy directly all their aluminum direct as a Government, and then distribute it to the various manufacturers in their own country, who will proceed to fabricate it. So that, the indirect orders to which I have referred are almost altogether orders for the manufacturers in the United States.

Mr. MEREDITH: Do you include this in the 20 per cent?

Mr. DAVIS: Yes, the direct and indirect both.

Mr. MEREDITH: Then, answer my question if you will—what precautions are taken, when you have an indirect order from a manufacturer, so that you may be satisfied that the material is going to go into munitions or for the Allies?

Mr. DAVIS: Most careful precautions are taken.

Mr. MEREDITH: Of what kind?

Mr. DAVIS: I shall explain. Practically every such order comes to us with the endorsement and instructions of the War Industries Board, accompanied by a priority order. I think that would cover 90, or 95, or perhaps 98 per cent of the cases. Beyond that, we ourselves take every precaution

to know that the material thus used is going to go into the Government service. There really is no question about it, because our knowledge of the trade, and our acquaintance with the customers are such that we need no information from the War Industries Board, although, as I say, we actually do get such information in the way of those priority orders.

Mr. GORDON: Who does the buying for the Allies, and who fixes the prices for aluminum to-day?

Mr. DAVIS: The prices are fixed by the Price-fixing Committee of the War Industries Board. These prices apply to all sales, whether to the United States or to the Allied Governments, and the purchases which are made by the Allied Governments are made by the various buying commissions which have their headquarters in Washington. There are British, French, and Italian Commissions. But such purchases are not made by these commissions except under the approval of the War Industries Board, and when an order is placed with us it is placed with us directly under the instructions of the War Industries Board.

Mr. GORDON: That is, there is one uniform price fixed by the United States Government for aluminum?

Mr. DAVIS: Yes.

Mr. GORDON: For aluminum made by your company, whether in the United States or in Canada, and to whomsoever it may be distributed?

Mr. DAVIS: That is true.

Mr. TAWNEY: Is your contract subject to the same rules and regulations in regard to sale that are applicable to iron and steel?

Mr. DAVIS: Exactly.

Mr. TAWNEY: Explain, for the information of myself and my colleagues, what that procedure is, and as to whether you can sell your products to any concern that is not engaged in the manufacture of products for the Government.

Mr. DAVIS: All our operations are conducted under the general supervision of the Non-ferrous Metals department of the War Industries Board, and all our sales are carried on in close co-operation with that department. Further than that, every Monday night we send a statement of our stock on hand, output, and orders on hand, and so forth, to not only the War Industries Board but to four or five other departments in Washington, and each month we send detailed lists of all shipments and other such data, both to the War Industries Board and other departments in Washington, so that all the departments interested, in Washington, have as correct and close knowledge and supervision as we do ourselves.

Mr. TAWNEY: Are you permitted to fill an order without its being accompanied by a priority permit from the War Industries Board?

Mr. DAVIS: We are permitted to fill an order for the simple reason that the Non-ferrous Metals Department feel that their trust in us is well-founded, and that we never abuse it.

Mr. McLEAN: Are you familiar with the physical make-up of the plant at Massena?

Mr. DAVIS: In a general way, but not in detail.

Mr. McLEAN: Can you say how many units there are in operation to-day?

Mr. DAVIS: Units of what?

Mr. McLEAN: By "units" I am referring to the number of wheels with dynamo connections?

Mr. DAVIS: There are thirteen.

Mr. McLEAN: And when were these units installed? Were they all installed at the same time?

Mr. DAVIS: No, sir.

Mr. McLEAN: Can you give us the dates of their installation?

Mr. DAVIS: No, I cannot at the present moment.

Mr. McLEAN: Have you that information available so that it can be supplied?

Mr. DAVIS: I question whether we could get it here without a great deal of difficulty; we could get it in a general way.

Mr. McLEAN: Have any new units been installed within the year last past?

Mr. DAVIS: No, sir.

Mr. McLEAN: Or within the last three years?

Mr. DAVIS: No, sir.

Mr. KING: Your evidence so far has largely been directed to the adverse ice conditions in the winter. Would you mind explaining the reference in the application of the St. Lawrence River Power Company to the improvement or establishment of navigation to Massena. Is that part of the intention of the proposed work?

Mr. DAVIS: We perhaps called attention to it as an indirect result. It is not, of course, our primary intention to improve navigation, but we did state incidentally that we considered we would improve navigation by this work.

Mr. KING: Can you tell us to what extent navigation would be opened to Massena; what draught of vessels would go there?

Mr. DAVIS: The work which the Aluminum Company of America has already done in the Grasse river has provided a channel from the St. Lawrence river up the Grasse river to Massena. The channel is about 200 feet wide and 16 feet deep. This channel was obtained by dredging entirely at the expense of the company. The channel from the St. Lawrence river to the town of Massena is perhaps 30 feet deep and over 200 feet wide, so that it affords a very good channel for navigation. But it has never been used to any extent or, in fact, it has not perhaps been used at all in a commercial way on account of the fact that Dodges shoal, which is about 2 miles up river from the entrance of the canal, has prohibited vessels of any draught from coming in. And, furthermore, the current in this western part of the South Sault channel is so very swift that it practically prohibits navigation.

Mr. KING: We have reached the point I am coming to—certain work has already been done by your company on Dodges shoal—a channel has been dredged through the shoal, I understand. Can you tell us the depth of that channel?

Mr. DAVIS: I am unable to tell, but our engineers are present, and they will answer that.

Mr. KING: One of the purposes incidentally mentioned in your application with regard to the establishment of navigation had reference to the channel dredged through that shoal?

Mr. DAVIS: Yes, indeed.

Mr. KING: And you leave that to the engineer to describe?



Mr. DAVIS: Yes.

Mr. KING: One more point. It was suggested at the hearing at Atlantic City that the amount of water withdrawable from the St. Lawrence river through the channel to Massena is limited at present by the capacity of your plant. Is that correct?

Mr. DAVIS: Will you please repeat that question.

Mr. KING: Is the amount of water diverted from the St. Lawrence through the power canal to Massena limited at present by the capacity of your plant?

Mr. DAVIS: The amount of water which is being diverted through the canal and into the Grasse river is limited by the capacity of the plant, but I do not know that the amount of water which is capable of being diverted in this manner is limited by the capacity of our plant.

Mr. KING: Are you using all the water that is diverted from the St. Lawrence river?

Mr. DAVIS: Yes, sir.

Mr. KING: Or is any passed over the by-wash or weir?

Mr. DAVIS: Nothing.

Mr. KING: You are using all the water?

Mr. DAVIS: Yes.

Mr. KING: Is it not a fact that the proposed work, by way of a submerged weir, in combination with the dredging of the shoal which lies above your power-canal entrance, will place at your disposal a greatly increased head of water?

Mr. DAVIS: Do you mean head of water or volume of water?

Mr. KING: Perhaps I should use the word "volume."

Mr. DAVIS: I do not think it is true at all, according to my understanding. In any event, with the increased head which would be made available by the submerged weir, the amount of water which will be used by us at our plant will be less rather than more.

Mr. KING: But a substantially larger amount would be capable of withdrawal from the river?

Mr. DAVIS: Not according to my understanding of it. There is, of course, available now, a larger amount which could be drawn, but I do not understand that this work would make available for withdrawal any more than is now available for withdrawal.

Mr. KING: That is your understanding of it?

Mr. DAVIS: That is my understanding.

Mr. JAMES WHITE: I understand you to say that the output of aluminum last year was 150,000,000 pounds?

Mr. DAVIS: Approximately.

Mr. JAMES WHITE: What was the output of aluminum in 1915, 1916 and 1917?

Mr. DAVIS: The output of aluminum in 1915 was 107,000,000 pounds; in 1916, 135,000,000 pounds; and in 1917, 150,000,000 pounds.

Mr. JAMES WHITE: The reason I ask you is because the figures quoted in the United States Geological Survey Report put it in round numbers for 1916 as 139,000,000 pounds and the production in 1917 is officially given as 180,000,000 pounds. This indicates that the production was increasing at approximately the same rate, namely, 40,000,000 pounds per annum during these years.

Mr. DAVIS: I cannot say offhand how you get your figures. You can rely, however, on the accuracy of the figures I have given, and these figures represent all the aluminum which was made from the ore. However, the figures of the United States Geological Survey, as I understand, include what is known as the manufacture of recovered matter. That is to say, the remilling and resmelting of dross, and clippings, and scraps of various kinds.

Mr. JAMES WHITE: I do not think so. They use the term "production" in the same sense as it is used by the Aluminum Company of America.

Mr. DAVIS: I question that, because I am very familiar with their method of figuring. In the first place, the figures given by the United States Geological Survey are founded on the figures that we give them of our own production. And the figures which we gave them for our own production are exactly the figures which I have given you now, as these are the correct figures, and it has been their custom in the past to include the amount of secondary production. I have been over it with them each year for many years, and I have no doubt that the figures to which you refer include them.

Mr. JAMES WHITE: Am I right in saying that the Aluminum Company of America is the only producer of aluminum in the United States?

Mr. DAVIS: Yes, sir.

Mr. JAMES WHITE: And also in Canada?

Mr. DAVIS: Yes, through their subsidiary company.

Mr. JAMES WHITE: What is the production of your four plants in the United States?

Mr. DAVIS: Do you mean exclusive of the one in Canada?

Mr. JAMES WHITE: Yes.

Mr. DAVIS: The plant in Canada makes approximately 20,000,000 pounds.

Mr. JAMES WHITE: What is the production at the Massena plant?

Mr. DAVIS: Of course, you understand, that is in the United States.

Mr. JAMES WHITE: Yes.

Mr. DAVIS: The production at Massena in 1917 was 58,000,000 pounds.

Mr. JAMES WHITE: What was the production at Niagara Falls?

Mr. DAVIS: 35,000,000 pounds.

Mr. JAMES WHITE: What was the production at Badin?

Mr. DAVIS: Eleven million pounds, and 25,000,000 pounds at Maryville.

Mr. JAMES WHITE: Isn't the capacity of the Badin plant a great deal more than 11,000,000 pounds?

Mr. DAVIS: No sir, not in 1917.

Mr. JAMES WHITE: But as I understand it, the Badin plant was only in full operation in August of last year. I wish to enquire whether the capacity of that plant in full operation is not more than 11,000,000 pounds.

Mr. DAVIS: Pardon me, I cannot hear your question.

Mr. JAMES WHITE: I understand that the Badin plant was only put in full operation last August.

Mr. DAVIS: That is correct.

Mr. JAMES WHITE: In view of that is the possible production of the Badin plant not considerably greater than 11,000,000 pounds?

Mr. DAVIS: Yes, sir, it is greater than 11,000,000 pounds.

Mr. JAMES WHITE: What is the total production of the Badin plant for the current year?

Mr. DAVIS: For the year 1918 it will make 20,000,000 pounds.

Mr. JAMES WHITE: Assuming it is operated to its maximum capacity?

Mr. DAVIS: Yes, at which rate it is being operated.

Mr. JAMES WHITE: I understand that the Maryville plant has recently been increased; am I correct?

Mr. DAVIS: You are correct.

Mr. JAMES WHITE: By how much will that increase the capacity of the Maryville plant?

Mr. DAVIS: The Maryville plant has not had any increase as yet, but next year we expect to increase perhaps fifteen million pounds.

Mr. JAMES WHITE: Fifteen million pounds during what period?

Mr. DAVIS: During the year 1919, as compared with 1917 or 1918, they both being identical. I might add that these increases which we are making with great haste and with the utmost effort and energy and a maximum, as you can easily understand for expense, are all being made for the purpose of increasing the output in precisely the same manner as we desire to increase the output at Massena. We are not treating Massena in any way different from any of our other plants. Whenever we have an opportunity to make even a small increase, we are bending every effort to make it.

Mr. JAMES WHITE: What do you estimate the requirements for the current year as compared with last year?

Mr. DAVIS: The present indications are that they will be very much greater. It is perhaps not my place, and it certainly is not within my power, to state what the Allied Governments are going to do. I have already explained to you the situation, and your judgment in these conditions is as good as my own. As I have stated, we received orders for the first six months of this year amounting to 120 per cent of our output, and for the month of July amounting to 135 per cent of our output. Our calculations are that the orders instead of being decreased will be increased in the future.

Mr. JAMES WHITE: What I wanted to get at is what you estimated the total increase in the demand during the coming year in million pounds over 1917.

Mr. DAVIS: I do not know that I have ever gone into such a refined calculation as an estimate in millions of pounds. The various departments at Washington have made such estimates, and there is no criticism of any of these estimates, although they all vary substantially, but they are all in accord in showing a substantial increase. It is very difficult for one to say what is going to be done, especially as one has to take into consideration the Governments of Great Britain, France and Italy, but there can be no doubt that there will be a substantial increase.

Mr. JAMES WHITE: You think the increase for 1919 will be greater than 15,000,000 pounds?

Mr. DAVIS: Oh yes, I am sure of it.

This ended the examination of the witness.



### After Recess.

The Commission reconvened at the expiration of the recess, the same parties being present as aforesaid.

Mr. GORDON: May it please the Commission, I offer in evidence that portion of the Rivers and Harbours Act of March 3, 1899, of the Congress of the United States, beginning with section 9 and following, which vests the authority in the Secretary of War to grant permits.

(Applicant's Exhibit 6.)

I also offer in evidence copies in duplicate of the permit granted by the Secretary of War to the St. Lawrence River Power Company for the construction of the weir here requested.

(Applicant's Exhibit 7.)

I also offer in duplicate the copies of the permits issued by the Secretary of War to the St. Lawrence River Power Company on August 3, 1903, for the construction of the dike which is referred to in the permit of 1917, the weir being the extension beginning at the end of the dike which was authorized in 1903.

(Applicant's Exhibit 8.)

Mr. Rickey, will you be sworn now?

#### TESTIMONY OF JAMES W. RICKEY.

JAMES W. RICKEY, of Pittsburgh, produced as a witness by and on behalf of the applicant, after being first duly sworn, was examined and testified as follows:—

Mr. GEORGE B. GORDON: Will you please state your full name?

Mr. RICKEY: James W. Rickey.

Mr. GORDON: Where do you reside, Mr. Rickey?

Mr. RICKEY: At Pittsburgh, Penn.

Mr. GORDON: What is your profession?

Mr. RICKEY: Hydraulic engineering.

Mr. GORDON: How long have you followed that profession?

Mr. RICKEY: Since 1895.

Mr. GORDON: Where did you obtain your education?

Mr. RICKEY: At the Rensselaer Polytechnic Institute, Troy, N.Y.

Mr. GORDON: Are you now in the employ of the Aluminum Company of America and its subsidiaries?

Mr. RICKEY: I am.

Mr. GORDON: In what capacity?

Mr. RICKEY: As chief hydraulic engineer.

Mr. GORDON: How long have you been connected with the Aluminum Company of America?

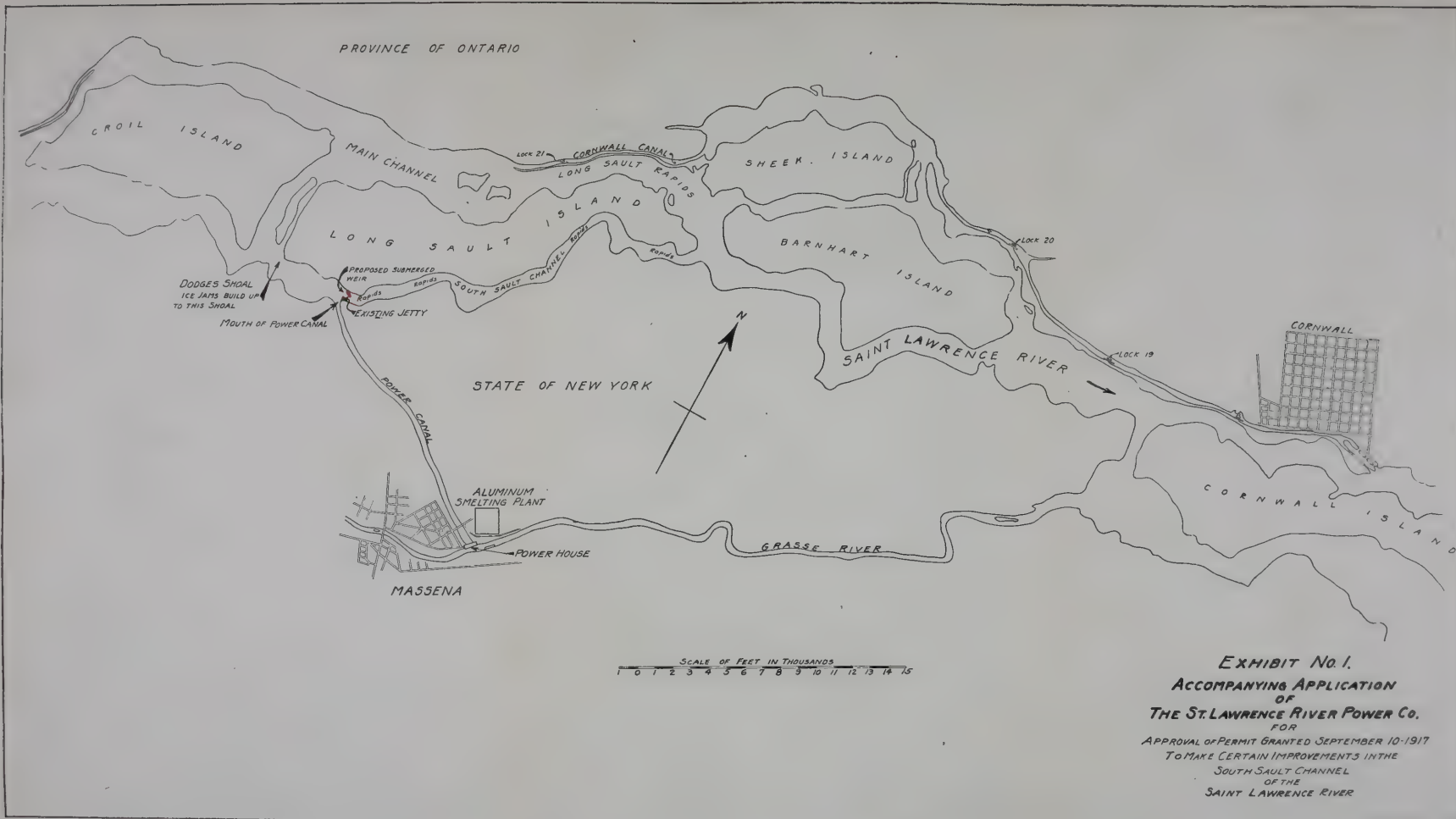
Mr. RICKEY: Since June, 1907.

Mr. GORDON: Are you familiar with the works of the St. Lawrence River Power Company in the St. Lawrence river near the Long Sault?

Mr. RICKEY: I am.

Mr. GORDON: Are you familiar with the channels and islands and waterways of the St. Lawrence river in that locality?

Mr. RICKEY: I am.



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Mr. GORDON: How long have you been acquainted with them?

Mr. RICKEY: Since 1907, when I began studies of these channels and the river in that district.

Mr. GORDON: I wish you would state what the present condition is of the waterways connected with the St. Lawrence in that vicinity from the head of Croil island to the head of Cornwall island, which embraces the territory that is in controversy in this application?

Mr. RICKEY: The answer to that question, I think, should start with an explanation of the ice conditions that obtain in the winter time, because the works that we are proposing deal solely with the improvement of the winter ice conditions. The map which accompanied our application, and which is marked Exhibit 1 in that application, is the large map on the easel.

Mr. GORDON: That is, the map on the easel is an enlargement of the map attached to the application?

Mr. RICKEY: Yes; and marked Exhibit 1 on the application. This map shows the St. Lawrence river and all of its channels from the western end of Croil island down to the middle of Cornwall island opposite the town of Cornwall.

Mr. TAWNEY: The distance is how many miles?

Mr. RICKEY: The distance is about 12 miles. The international boundary is shown in red on this map following the various channels.

Mr. POWELL: Will you describe it very briefly. That map will not be in evidence and without a proper description your testimony will be unintelligible?

Mr. RICKEY: The international boundary follows the channel on the north side of Croil island, the north side of Long island and the eastern end thereof; thence follows the Little River channel, so-called, between Sheek island and Barnhart island to the eastern end of Barnhart island; thence it follows the main channel of the river to Massena point, where it turns southerly following through a channel known as Polly's gut; and thence it follows on the south side of Cornwall island.

About the latter part of December to the 5th or 6th of January, the period being quite well defined, ice jams start to form in the vicinity of the eastern end of Cornwall island, and build up both channels; that is, the channels on the north side and on the south side of Cornwall island, following up the main channel of the river as far as the eastern end of Barnhart island and thence build upstream following the main channel on the south side of Barnhart island to the head of Barnhart island. In severe winters the ice jams will thence continue following up the South Sault channel on the south side of Long Sault island, and also will follow up the main channel in the Long Sault rapids on the north side of Long Sault island, sometimes rising so high as to entirely obliterate the rapids and make an entirely quiet pool to the main land near the easterly end of Barnhart island.

Mr. GORDON: How does that affect the Big Sny?

Mr. RICKEY: The Big Sny is never congested with ice. I have traced the records back by referring to diaries of farmers along the river for the past century, and had conferences with many people along the shore, and it is not within the memory of anybody living along the shore that the Big Sny, which is the channel between the western end of Long Sault island and the eastern end of Croil island, has been destroyed by ice jams. So much for the ice jams that form east of Long Sault island.

There is a different set of ice jams that are caused in this way: The ice coming down the main channel of the St. Lawrence river westerly from Croil island divides into two parts, some of which will go between the northwesterly end of Croil island and the main shore through what is known as Farrans Point channel. The remainder of the ice goes through the main channel on the south side of Croil island. It there splits. Part of the ice will go down the Big Sny and into the main channel north of Long Sault island. The remainder will go down the South Sault channel on the south side of Long Sault island. When we have a strong northwesterly wind blowing substantially all of the ice in the river will be blown into the channel south of Croil island. In such cases a very large part of that ice will be diverted into the South Sault channel at Peppermill point, which is about one mile east of the mouth of the Massena Power canal.

Mr. GORDON: You mean the intake?

Mr. RICKEY: Well, it is called the mouth of the power canal in the application, and I have adopted that phraseology. Immediately below that point the channel widens out as shown on the map. The channel is deep and the current is slow. Consequently, the ice is not carried off as fast as it is brought into the channel, and the ice jams begin to form in the vicinity of Peppermill point, which, as I stated, is about one mile easterly from the inlet to the power canal.

Every winter we have a large gang of men using dynamite, undertaking to keep these channels free from ice. Some years they are successful, but more frequently they are not. Whenever the ice jam forms in such a way that we cannot open it up—and if it gets only a few hours advantage of us it is not possible for us to open it up—additional ice coming down the river and entering the South Sault channel will cause a jam to build up past the inlet to the power canal and continue up to Dodges shoal, which is at the extreme westerly end of Long Sault island. Beyond that point the ice jam does not form for the reason that the current sweeping rapidly through the channel at the southwesterly end of Croil island sort of peels the ice off of the jam, if you please, and shunts it down the Big Sny.

Every winter that jam will form if the power company or some other person does not undertake to keep the channel open, and, as I said before, only in occasional years are we able to keep the channel open. The effect of the ice jam forming from Dodges shoal down to the power canal is to effectually prevent the flow of water into the South Sault channel. The quantity of water is so much reduced that at times we have been able to only develop some one hundred and fifty or two hundred horse-power, merely enough to pump the water and furnish lights for the village of Massena. That condition, however, generally improves a little, and we can get four thousand or five thousand or maybe ten thousand horse-power, but the reduction of the quantity of water is so great that it practically shuts down the plant for a period of three months every winter, beginning the first part of January and extending at times into April.

Mr. GORDON: What is the normal horse-power of the plant there under ordinary conditions?

Mr. RICKEY: The normal horse-power under ordinary conditions is a little upward of eighty-six thousand.

Mr. GORDON: What method do you suggest, Mr. Rickey, for obviating this ice trouble, and what relation has that to this application for building up the weir across the South Sault?

Mr. RICKEY: In answering that question I will draw attention to two other exhibits. The exhibits to which I refer are copies of the exhibits in the application and are listed as Exhibit B and Exhibit G. I will refer first to Exhibit B, which shows to a large scale the proposed submerged weir shown in red on the exhibit before you and also shown in red on the exhibit in the application. This Exhibit B is an enlargement of the vicinity of the entrance or mouth of the Massena power canal. There is already constructed under authorization from the War Department, dated August 3, 1903, a jetty extending some two hundred and eighty or two hundred and ninety feet from the mainland out into the South Sault channel, and from the southerly bank of the South Sault channel. The company desires to extend, as a submerged weir, the jetty over to Long Sault island. A cross-section of the submerged weir is shown in the sketch and marked CD on the exhibit in the application. The effect of this submerged weir will be to greatly reduce the quantity of water going down the South Sault channel, and when the ice starts to run very badly in the winter, by shutting down the Massena power-house there will be such a small quantity of water flowing down the South Sault channel from Dodges shoal down past the mouth of the power canal that the channel will freeze over. In addition to the submerged weir, the company is now constructing certain works on Dodges shoal. These works are shown on Exhibit G, and are also shown in the corresponding exhibit in the application. A dredge cut has been made through Dodges shoal as indicated by a side line on Exhibit G. At the upstream end of this dredged cut will be submerged channels radiating almost like the fingers on one hand. Those channels will be deep, and their function is to carry water free from ice into the South Sault channel easterly from Dodges shoal. A wing dam has been built on Talcotts point as indicated on Exhibit G. A pier is now under construction, and other piers, as indicated on the exhibit, will be built across the shoal. These piers are approximately two hundred feet apart, and are very massive and substantial. In between these piers we will float boom scows that will be removed in the summer and replaced in the late fall.

Mr. TAWNEY: What is the size of the piers?

Mr. RICKEY: The piers will be about thirty feet square. We will make them very large so that any jams coming against them will not overturn or shove them away.

Mr. GORDON: The construction of these piers and booms and dredging of the river were authorized by the Secretary of War?

Mr. RICKEY: They were authorized by the Secretary of War.

Mr. GORDON: Have you copies of that permit here?

Mr. RICKEY: I have a copy of that permit, yes, sir.

Mr. TAWNEY: What is the cross-sectional area of the South Channel at these shoals, or what was it before any dredging was done?

Mr. RICKEY: It was about seventy-five hundred to eight thousand square feet before the dredging was done.

Mr. TAWNEY: How much will the piers and work that you are doing there reduce the cross-sectional area?

Mr. RICKEY: Nearly one thousand square feet. I do not know the exact depth of the water there, and that is why I cannot state it with any more



accuracy than that, but it will be between eight hundred and a thousand square feet reduction.

Mr. TAWNEY: What effect will that reduction have upon the water flowing down the main channel?

Mr. RICKEY: I doubt if it would have very much effect at all. The channel between Delaney's island and Talcott's point is sixteen hundred feet wide, and putting in four piers there thirty feet wide is not a material reduction of area.

Mr. GORDON: The river is narrower below the Sault?

Mr. RICKEY: Theoretically it would be, but practically I doubt if you could pick it up on an ordinary gauge reading only a tenth to a foot.

Mr. MAGRATH: When will those piers be completed?

Mr. RICKEY: We will not build those piers unless the authorization to extend the jetty is granted, because there is nothing at all to hold them in. I will cover that point in just a moment. I believe it is impossible to put anything in there that would stay. I stated awhile ago that by shutting down the Massena power-house the velocity of the current in the South Sault channel between the entrance to the canal and Dodges shoal will be so slow that the channel will freeze over. When that occurs our boom will be in the position indicated on Exhibit G. Ice will lodge against that boom and it will form up approximately to the heavy line which is marked "approximate ice limit in 1904, 1907, 1908, 1911, 1914, 1915, and 1916."

I might incidentally add that the jam of 1907 went substantially to that line which is reproduced almost exactly every year when ice jams form.

The ice coming down and lodging against the piers, which in turn are backed up and supported by the solid surface and ice below the piers, forms an incipient ice jam on Dodges shoal which will deflect the ice down through the Big Sny. Then the submerged channels at the upper end of the dredged cut through the shoal may carry water free from ice down into the South Sault channel. Of course, ice will work its way under the incipient jam on the head of the shoal, but we will not have tightly packed ice jams such as obtained in the past and under present conditions.

Mr. TAWNEY: Do those ice jams extend clear down to the bottom of the river?

Mr. RICKEY: Absolutely; it is just as though you dumped so many rocks in the river.

Mr. TAWNEY: They shut off the water almost entirely?

Mr. RICKEY: Yes, sir.

Mr. GORDON: How about the frazil ice?

Mr. RICKEY: It fills the interstices between the chunks of ice and makes it a very effective dam.

Mr. GORDON: In this connection, I wish to offer in evidence the permits granted by the Secretary of War, which I have here in duplicate, for the dredging of Dodges shoal and the building of the ice boom in the river.

(Applicant's Exhibit 9.)

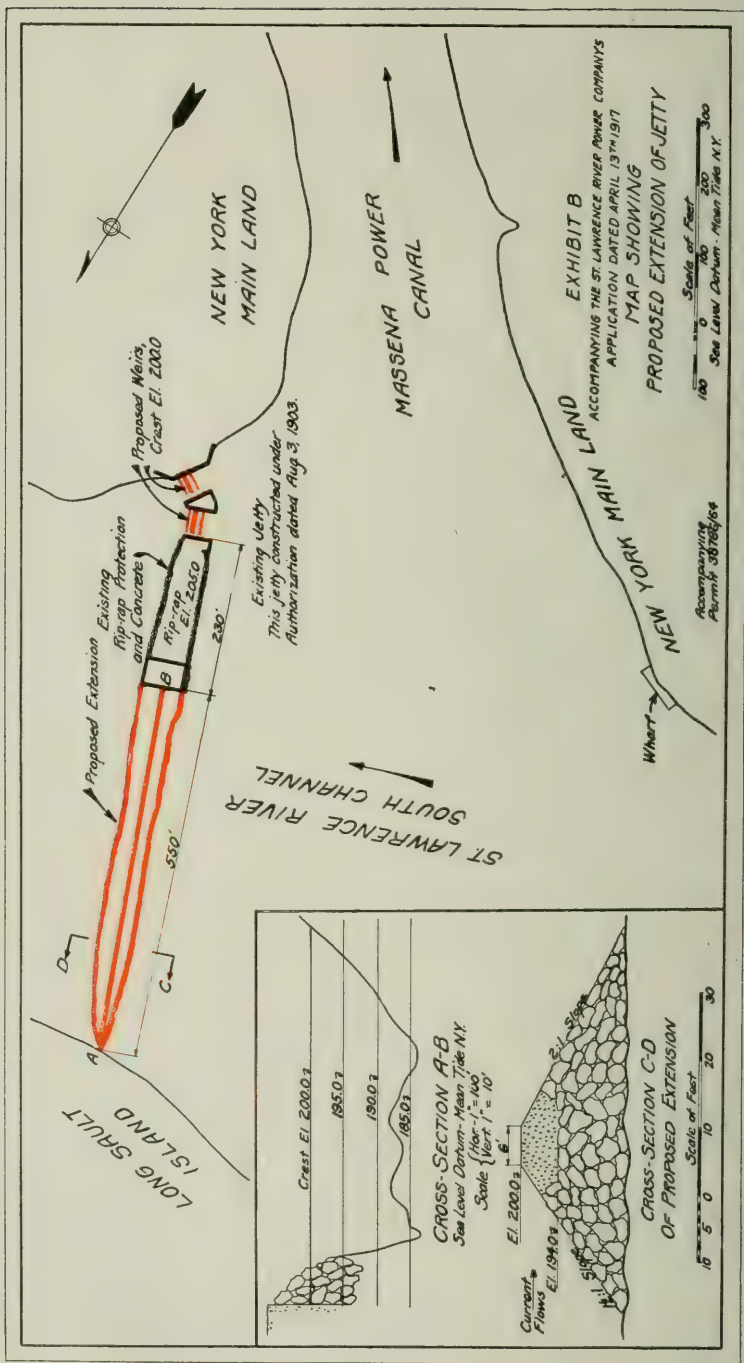
Mr. TAWNEY: Under what authority were those permits granted?

Mr. GORDON: Under the same Act of Congress as those which I offered a few minutes ago.

Mr. MIGNAULT: Mr. Gordon, have you a copy of this map here?

Mr. GORDON: Yes, sir; we have photostatic copies here.







Mr. RICKEY: Exhibit G, Mr. Mignault, did not accompany the permit that is under discussion at this hearing. Exhibit G accompanied the permit which has already been granted by the Secretary of War.

Mr. TAWNEY: But it is not in your application?

Mr. RICKEY: No, sir; that is not in there. I made a misstatement a little while ago.

Mr. GORDON: Now, Mr. Rickey, what, in your opinion, will be the effect of these works, when they are completed, on the operation of the power plant at the lower end of the Massena plant?

Mr. RICKEY: The effect will be to practically remove our ice troubles. I do not mean by that that we will not have any ice troubles, but it will, in my opinion, take away probably 80 per cent of our ice troubles, maybe more. I base my opinion upon the fact that whenever this jam builds naturally up to the heavy line shown on Exhibit G, which is marked the upper limits to the ice, it never goes above that point, and it always sheers off all additional ice which goes down the Big Sny.

Mr. GORDON: And in connection with that, this deep channel will allow the water to pass under the ice?

Mr. RICKEY: It will give you ice free water.

Mr. GORDON: Do you know anything about those currents, how those currents will work? Will they work successfully in creating a cross current there into the canal?

Mr. RICKEY: Our engineers have made models of the vicinity of Dodge's shoal drawn accurately to scale and have used paraffine for artificial ice and studied that question for a month. In the model the dredged cut and ice boom arranged as shown on Exhibit G causes 100 per cent of the paraffine ice to go down the middle of the Big Sny. Other experiments that we have made along the hydraulic lines show that we can rely, to a very great extent, upon the result forecast by the models.

Mr. GORDON: You examine into the question of the effect that these proposed works will have upon the levels of the waters upon the Canadian side of the river?

Mr. RICKEY: I did.

Mr. GORDON: I wish you would state what your opinion is upon that point and what it is based upon.

Mr. RICKEY: In answering that question I will state that we will consider three stages of flow in the St. Lawrence river. We will first take the minimum stage, namely, about two hundred thousand second-feet. The effect of the submerged weir will be to prevent a large proportion of the water that would otherwise flow down the South Sault channel from passing through that channel, and divert that water through the Big Sny channel into the main channel on the north side of Long Sault island. This statement assumes that the same quantity of water is drawn through the Massena power canal. When analysing the elevations of the water at the weir for the stage of two hundred thousand second-feet we find that the water level at lock 21 will be raised about three or four inches, which is an improvement to navigation, because every inch of increased draught there is an assistant to navigation, and particularly at the low water periods of the year when in times past boats have had to lighten their draught in order to pass over the upper sill of lock 21.

Mr. TAWNEY: Lock 21 is north of the main channel of the St. Lawrence river?

Mr. RICKEY: Yes, sir; it is the entrance lock at the west end of the Cornwall canal. The average stage of the St. Lawrence is about two hundred and fifty thousand second-feet. At such stage the water level at lock 21 will be similarly raised, but it is of no benefit to navigation because you already will have some fifteen and a half or sixteen feet depth of water over the sill, but it is no detriment because it is at a little greater elevation and will allow the boats to enter the locks somewhat more freely than they otherwise would.

If we now pass on to the maximum stage of water in the river, we find that the rise at lock 21 is again substantially four inches. It might vary an inch or so from that, but it is approximately four inches. Analysing the river levels under those conditions, we then find that the coping of lock 21 will be about a foot and a half higher than the water level, so there is no danger of the water flooding the coping of the lock. Now having analysed the low water condition where we find an improvement, the average water stage where there is no detriment, and possibly just a little easier entrance to the lock, and the flood-water stage where there is no damage done to the lock, it is my opinion that these works will be an improvement to navigation.

Mr. GORDON: How will the channel of the South Sault be affected by this weir?

Mr. RICKEY: There will be no traffic either by motor boat or otherwise through the South Sault channel. There will be water in the South Sault channel, but there will be no navigation of any kind.

Mr. GORDON: How will this effect the Massena power canal?

Mr. RICKEY: I refer now to an average stage of two hundred and thirty thousand second-feet, and the reason I do that is unless you tie yourself down to some stage, we have so many variables here you cannot answer the question at all. At an average stage of two hundred and thirty thousand second-feet, with the canal discharging about twenty-eight thousand to twenty-nine thousand second-feet, which is the quantity of water used when we are developing eighty-six thousand horse-power, the water level without the submerged weir will be substantially at elevation one hundred and ninety-eight. I will here interject the remarks that in working up these levels I have taken them to the nearest half foot. We have them worked out more refined, but it is rather confusing to reproduce a lot of decimals. After the submerged weir is built the water level under the same conditions will be elevation 202.5. The rise at the inlet to the canal will, therefore, be 4.5 feet.

Mr. GORDON: What effect will that have on the amount of water that has gone from the river and through the canal?

Mr. RICKEY: The Massena power-house is very well equipped with turbines and generators to determine the amount of water that we can apply to the coupling between the turbine and generator shaft, because if we put any more power on we will burn up the generators. In fact, we did that the other day. There was a slight accident, and it will take a few days to make the repairs. After the submerged weir is built the level at the inlet to the canal will be 202.5, and the level at the power-house in the forebay will be elevation 201; whereas, under present conditions the level

would be elevation 195. Consequently, there will be six feet additional head at the Massena power-house. Now, since we have six feet greater head and are developing the same power, we will use correspondingly less water. So water that is now being diverted to Grasse river through the Massena power canal will be correspondingly diverted to the Big Sny and help raise the level at lock 21, particularly under low-water conditions. The head at the power-house will be increased about six feet. We develop now a maximum of 86,000 horse-power. If we increase the head, that reduces the quantity of water because the higher the head the less quantity of water required.

Mr. GORDON: It is a less weight of water?

Mr. RICKEY: It is a less weight of water. If you have twice the head you have only to have half the quantity of water. Consequently, using less water a portion of it will flow over the weir and down the South channel. The remainder, however, will be diverted through the Big Sny and pass lock 21 in the main channel, and will raise the water in that channel.

Mr. GORDON: The only effect that this change will have, then, upon the amount of water used by the power-house under normal conditions is to decrease it?

Mr. RICKEY: Yes, sir.

Mr. MAGRATH: The amount of water used will be decreased instead of increased?

Mr. RICKEY: Yes, sir.

Mr. GORDON: That is because of the increased head?

Mr. KING: May I follow that up so we may have light on that? You have controlling means, have you, to reduce the amount of water that will flow through your turbines?

Mr. RICKEY: Yes. We simply go to the governors and pull down the handles and the water through the canal stops. That is the condition that will obtain when we freeze over the canal. I mention that because when we develop a certain amount of water when the head goes up the governors close the gates so we do not use as much water. It occurs automatically. We do not have to do anything; the governors will take care of it.

Mr. GORDON: So as to keep a uniform amount of water?

Mr. RICKEY: Yes.

Mr. GORDON: And when the head raises the governors shut down so there is not so much water?

Mr. RICKEY: Yes.

Mr. GORDON: And that is in direct mathematical proportion to the head of the water?

Mr. RICKEY: Yes.

Mr. GORDON: That is, if you have a twenty-foot head and increase that to a thirty-foot head, you decrease by thirty-three per cent the amount of water which you have to use?

Mr. HICKEY: Yes.

Mr. GORDON: Now, I want to show you one of these other plans that shows the profile of the bottom of the river past Dodges shoal, and past the proposed jetty. Explain to the Commission what that plan shows, as it has a bearing upon this question.



Mr. RICKEY: The exhibit to which I now refer is marked Exhibit D in the application before the Commission. The heavy wavy line shows the average surface elevation of the bed of the river for a width of two hundred feet. It is, therefore, typical of the depth of the water in the South Sault channel from Dodges shoal to the eastern end of Long Sault island. This curve was compiled from soundings shown on the government charts. The top line which carries blue shading on the exhibit before you, but which is not shaded in the application, shows the profile of the water surface at a stage of 234,000 second-feet, which is about the average stage of water in the river. It shows the sharp pitch or fall of the surface just below the intake of the canal, which the commissioners saw a few days ago; and it also shows the sharp fall of the water at the foot of Long Sault island. The weir is shown in red on the sketch before you and also the one accompanying the application. I will just call your attention to the fact that the ratio of the two sketches are very badly distorted in order to get it on a small sheet.

Mr. GORDON: What is the vertical scale?

Mr. RICKEY: The vertical scale is five feet to the inch and the horizontal scale is one thousand feet to the inch.

Mr. GORDON: What is this Talcotts point?

Mr. RICKEY: Talcotts point so marked on the exhibit is opposite Dodges shoal.

Mr. GORDON: This profile, which is Exhibit D, shows the position of Dodges shoal in the river and also the position of the shoal upon which you intend to build this submerged weir?

Mr. RICKEY: Yes, sir.

Mr. TAWNEY: How far is Dodges shoal west of the submerged weir?

Mr. RICKEY: About 4,200 feet.

Mr. TAWNEY: A little less than a mile?

Mr. RICKEY: A little less than a mile.

Mr. GORDON: And it is between those two shoals that the Massena power canal intake or mouth is located?

Mr. RICKEY: Yes.

Mr. MAGRATH: During what period do those ice conditions bother you?

Mr. RICKEY: Ice jams, you mean?

Mr. MAGRATH: Yes.

Mr. RICKEY: Beginning in the first part of January and extending always until the last part of March and frequently into April. Then the ice jams begin to wear away gradually and normal conditions are restored generally by the 20th of April.

Mr. MAGRATH: During that period your supply of water from the river is restricted?

Mr. RICKEY: Yes, sir.

Mr. MAGRATH: I want to be clear as to your intention. I understood you to say that this proposed structure will lessen the supply from the river instead of increasing it?

Mr. RICKEY: That would be, I presume, in the summer months.

Mr. MAGRATH: But you would get an increased supply in the winter months?

Mr. RICKEY: No; that would obtain all the year round.

Mr. MAGRATH: During the winter months you would still be taking less water than under existing conditions?

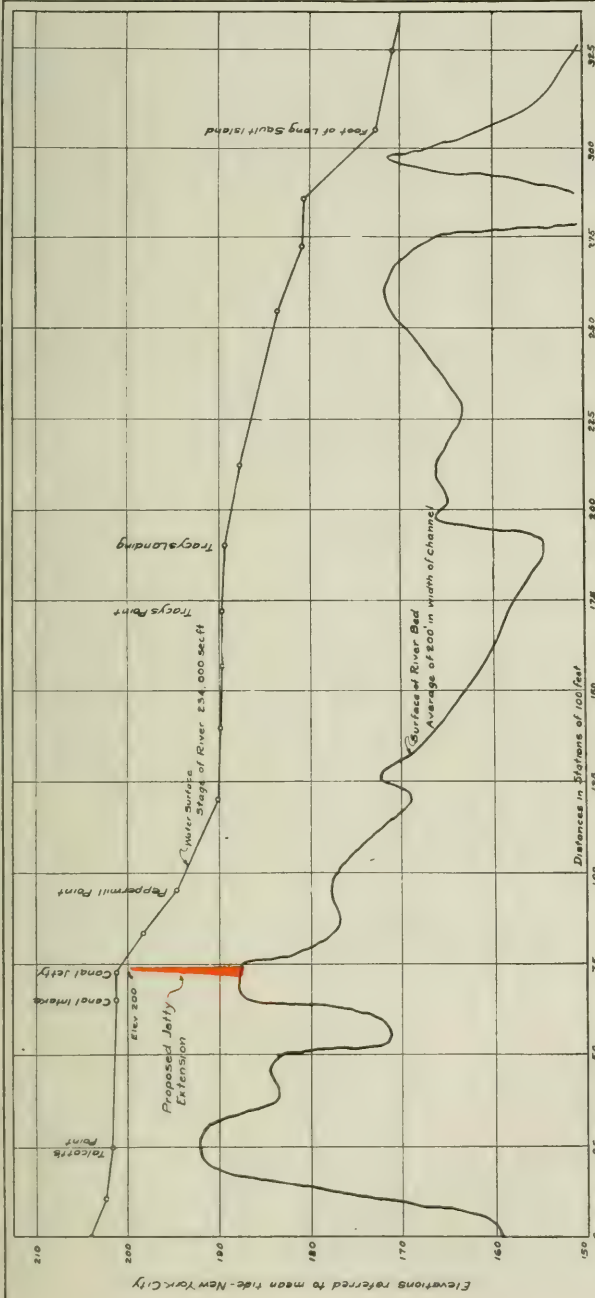
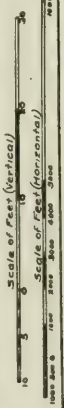
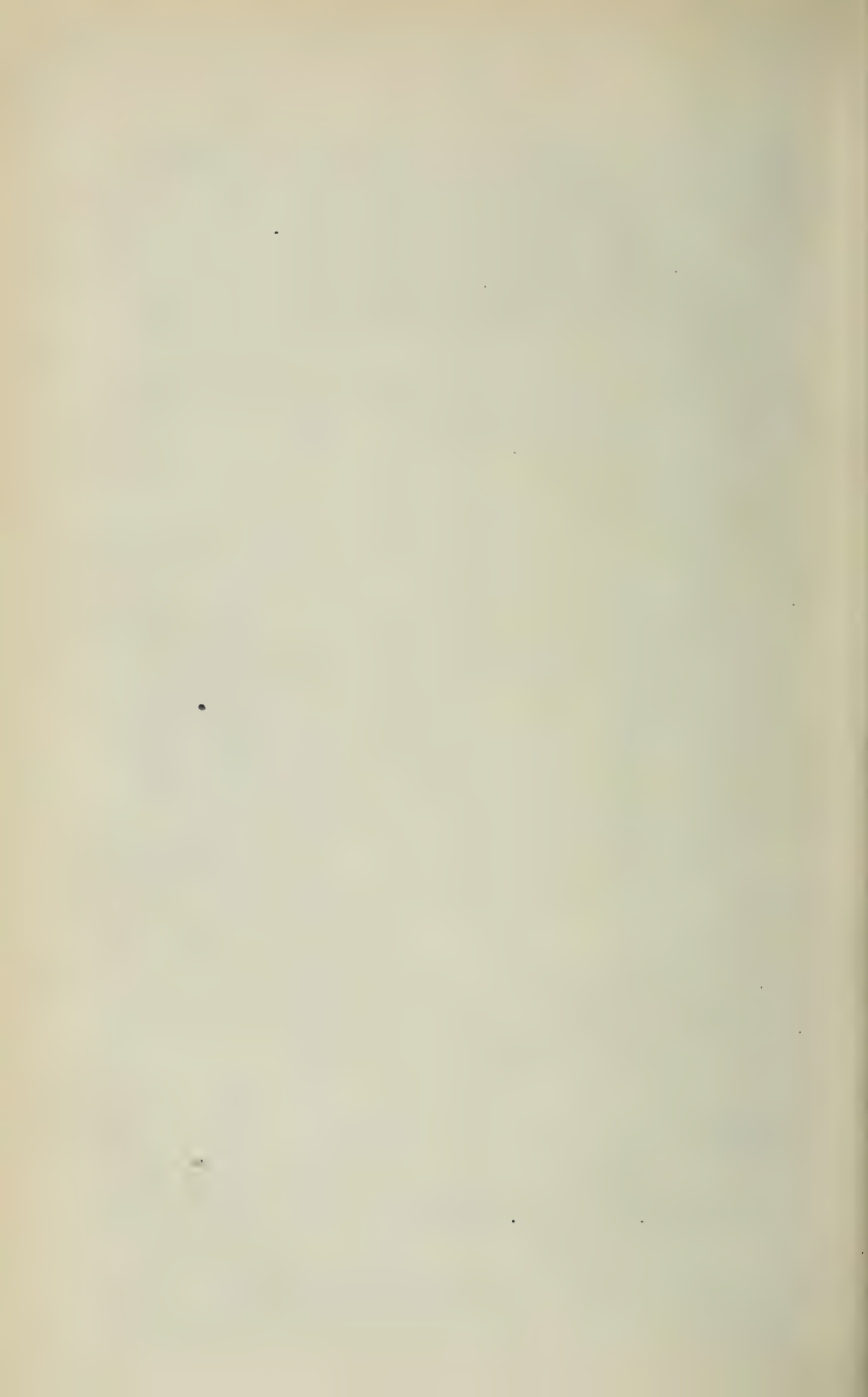


EXHIBIT D

ACCOMPANYING THE ST. LAWRENCE RIVER POWER COMPANY'S  
 APPLICATION DATED APRIL 13TH 1917  
 PROFILE OF WATER SURFACE  
 SOUTH SAULT CHANNEL  
 FROM RICHARDS BAY TO FOOT OF LONG SAULT ISLAND

ACCOMPANYING  
 PERMIT 38786/64







Mr. RICKEY: No; under existing conditions at times we do not take any water. We cannot get it.

Mr. MAGRATH: But your evidence a few moments ago, as I understood it, was that you will take less water from the stream with this structure in than you are taking to-day. That is true, is it not, during the summer months, but in the winter months you take more?

Mr. RICKEY: Yes; we will take more. I stand corrected on that.

Mr. POWELL: What is the difference in level between the head of the run in the Big Sny and where you propose to insert the dam?

Mr. RICKEY: At present there is five and a half feet fall from Richards bay to the entrance to the power canal.

Mr. POWELL: What fall is there from the same point, that is at the head of the Big Sny, down to the international boundary line?

Mr. RICKEY: I cannot answer that question. I do not recollect the levels.

Mr. POWELL: What about the speed of the race from the point that I have indicated through that channel in the Big Sny?

Mr. RICKEY: Some observations that were made in 1904 showed a velocity of six feet a second at a point that is substantially in the centre of the entrance of the Big Sny. That would be approximately four miles an hour.

Mr. FRANK H. KEEFER: Mr. Rickey, we have two permits in. These are all the permits, as I understand it, that were obtained relating to this proposed work?

Mr. RICKEY: No; there was an additional permit.

Mr. KEEFER: Which one was that?

Mr. RICKEY: We got two permits covering this work at the shoal. They both cover substantially the same thing. The first permit, however, was granted before we made our experiments to determine the best location for the cut. Then after we made our experiments we saw that we were wrong in our preliminary location.

Mr. KEEFER: Then what did you do?

Mr. RICKEY: We applied for permission to change the location of the cut, and they granted a new permit.

Mr. KEEFER: Could you find the first permit so that our engineers would have access to it?

(Mr. Rickey thereupon produced the permit requested, which was marked "Applicant's Exhibit 10.")

Mr. KEEFER: Have you the reports of the War Department engineers on those matters?

Mr. RICKEY: No, sir.

Mr. KEEFER: We have heard it stated that in their judgment it did not affect the levels on the other side. I would like to see the reports if you have them.

Mr. RICKEY: I have not got them.

Mr. KEEFER: What was the approximate date of the first permit that you did not act upon?

Mr. RICKEY: September 10, 1917.

Mr. KEEFER: That would correspond practically to the date of the permit under which the work is now proposed to be done and for which confirmation is asked?

Mr. RICKEY: Yes, sir.

Mr. KEEFER: Did you start in to do any work at all under that permit?

Mr. RICKEY: Under the original permit?

Mr. KEEFER: Yes.

Mr. RICKEY: Yes.

Mr. KEEFER: Of what nature?

Mr. RICKEY: We started the dredges on the lower part of the cut northeasterly from Talcott's point.

Mr. KEEFER: Did that original permit in any way require the confirmation of the International Joint Commission?

Mr. RICKEY: It did not.

Mr. KEEFER: Do you know whether it was ever brought to the attention of Canada?

Mr. RICKEY: I do not.

Mr. KEEFER: Then, after you started dredging you continued on with the dredging steadily, I suppose, excepting for the winter periods, of course?

Mr. RICKEY: Well, the winter period got us very soon. As I recollect it, we got in about six weeks' work.

Mr. KEEFER: And then started again this spring?

Mr. RICKEY: Yes.

Mr. KEEFER: Have you finished dredging?

Mr. RICKEY: Substantially.

Mr. KEEFER: So that the channel through Dodges' shoal is now dredged out?

Mr. RICKEY: Yes, sir.

Mr. KEEFER: What would naturally happen if that channel is dredged out and there be no weir at the mouth of the Long Sault channel, so far as the water flow is concerned, and you take the same amount of water through the power canal?

Mr. RICKEY: Slightly more water will go down the South Sault channel.

Mr. KEEFER: And if more water is taken down the South Sault channel will it affect in any way the level of the north shore?

Mr. RICKEY: In a minor degree it might.

Mr. KEEFER: So it is only a question of degree, but in some degree it does affect the level, in your judgment?

Mr. RICKEY: Yes.

Mr. KEEFER: The piers that you speak of have not yet been constructed?

Mr. RICKEY: No, sir.

Mr. KEEFER: Then, leaving those piers out of the way, supposing they are not authorized or further continued or anything of that nature, and the dam is not built across the mouth of the South Sault channel, there will be a difference on the north shore in the level of the water?

Mr. RICKEY: A slight difference.

Mr. KEEFER: What would you put that at in inches?

Mr. RICKEY: I have not made any computations on that.

Mr. KEEFER: Well, you have the cross sections of that cut. It is a cross section 150 feet wide and what depth?

Mr. RICKEY: The total depth now is 20 feet.

Mr. KEEFER: How much would that volume of water affect the level on the north shore?

Mr. RICKEY: Possibly a couple of inches.

Mr. KEEFER: I suppose it is an admitted fact that every inch in commerce is of great value in the carrying capacity of a boat?

Mr. RICKEY: I presume so.

Mr. KEEFER: It means a great difference in tonnage. If you cannot get an inch of water you have to shorten up your tonnage in the boat?

Mr. RICKEY: I think so.

Mr. KEEFER: Therefore, it would be quite a matter for the navigation interests to concern themselves with if that state of affairs continued. That is reasonable, and I can pass on. Now, the effect of the Dodges shoal undredged was to act as a natural breakwater, was it not? It was deposited there probably by ice conditions, but it acted as a natural breakwater in the South Sault channel, or a natural submerged weir?

Mr. RICKEY: It acted as a submerged weir.

Mr. KEEFER: And to-day you are going to in part remove that submerged weir and hope to move it down to the mouth of the South Sault channel, only you will completely block the South Sault channel?

Mr. RICKEY: The submerged weir will block the South Sault channel.

Mr. KEEFER: And instead of leaving a natural submerged weir you will have an artificial one at the mouth of the channel?

Mr. RICKEY: There will be two; there will be the submerged weir right across here (indicating on map)——

Mr. KEEFER: Yes; you will have dredged through that channel, so in part that is gone. That is correct, is it not?

Mr. RICKEY: We have dredged that.

Mr. KEEFER: Now, with that submerged weir there, that did control to some extent the high and low water levels in the river, did it not? That is above that point?

Mr. RICKEY: Repeat that question, please.

Mr. KEEFER: With the submerged weir in its natural state the high and low-water levels of the St. Lawrence river above it were naturally somewhat controlled at Dodges shoal? That, I think, is self-evident?

Mr. RICKEY: I just want to think about that. I am not so sure it is self-evident. I just want a little time. That is rather a technical question.

Mr. POWELL: You mean without any compensation work below?

Mr. KEEFER: I am leaving out the question of compensation work. He has told me that the taking out of this Dodges shoal without any dam at the mouth will affect it about a couple of inches on the north shore.

Mr. RICKEY: It is already some six feet deep there. There was already considerable depth at that point, so that it is not a twenty-foot cut.

Mr. KEEFER: What depth is it?

Mr. RICKEY: I do not know. I would have to go back to the records. We have soundings that would show that.

Mr. KEEFER: Can you tell me what the depth is over that shoal? Does not that map show it?

Mr. RICKEY: No; this map here, as I stated, is the average width at the deepest part of the section for a distance of 200 feet.

Mr. KEEFER: Well, what is that average depth of Dodges shoal, undredged?



Mr. RICKEY: The deepest part of Dodges shoal, in a general way, is near the middle of the channel.

Mr. KEEFER: Will you just kindly give me the average depth of Dodges shoal in its natural condition, if you know it? If not, it can be taken off the chart.

Mr. RICKEY: I would prefer to take it off the chart.

Mr. KEEFER: We will leave the chart to speak for itself. With a channel cut through Dodges shoal, and with this proposed submerged weir built at the mouth of the Long Sault, the control of the St. Lawrence at that point moves down to your Massena works, does it not? So far as high and low levels are concerned, according to the way you regulate your works, so will the level of the river be affected? Is not that right?

Mr. RICKEY: In a general way.

Mr. KEEFER: Therefore, that control will move out of international territory to-day into domestic territory. Your works are not in international waters, are they?

Mr. RICKEY: No.

Mr. KEEFER: Then, we will pass on. You estimate that you will get six feet additional head by virtue of this dam?

Mr. RICKEY: Six feet additional head at the power-house.

Mr. KEEFER: Of course, that is where the value is.

Mr. RICKEY: Yes.

Mr. KEEFER: That six feet additional head will be worth to you what in horse-power?

Mr. RICKEY: I cannot answer that unless we state the quantity of water.

Mr. KEEFER: Well, with your present quantity of water going through. Take no more, of course, as you say you will not.

Mr. RICKEY: The present head is in the neighbourhood of 35 feet. I would like to interject that there is no such thing as giving information about what the head of this plant is, unless we state all the conditions. We could develop the same amount of power and hold the head away down, or we could use less power.

Mr. KEEFER: I am taking the conditions just as they are to-day—to get that additional six feet head, what additional horse-power will be given with the flow of water you have?

Mr. GORDON: That was not the question you asked before; you asked what the additional head would be worth to the company.

Mr. KEEFER: I want to get the number of the horse-power. What would be the additional number of horse-power by virtue of the head. I figure it would be 16,000 horse-power?

Mr. RICKEY: That is substantially correct.

Mr. KEEFER: If you take the full amount of water that your canal will carry you will get how much more power there?

Mr. RICKEY: I cannot answer that question.

Mr. KEEFER: It would be considerably more?

Mr. RICKEY: It would be more.

Mr. KEEFER: And more water will be taken out of the St. Lawrence river than you are taking to-day?

Mr. RICKEY: We would take more water.

Mr. KEEFER: The question that Mr. Magrath was asking was whether you would confine your draught of water on account of your increased head to exactly what it is to-day, or not. Is it the intention when you get this head of water, for your company to draw the same amount of water as to-day or to take less water, by virtue of your having a greater head?

Mr. RICKEY: I cannot answer that.

Mr. KEEFER: You will be in a position, if you want to, to draw the same amount of water and get that additional horse-power?

Mr. RICKEY: Not without adding more turbines.

Mr. KEEFER: You do not require any international consent about that, do you; you can do that at the works yourselves?

Mr. RICKEY: I am not posted on that.

Mr. KEEFER: How many units have you now?

Mr. RICKEY: Thirteen.

Mr. KEEFER: And they give 85,000 horse-power?

Mr. RICKEY: 86,000.

Mr. KEEFER: Are they practically equal?

Mr. RICKEY: Eight of them are.

Mr. KEEFER: You get 16,000 additional horse-power, you tell me, by virtue of the increased head. Are you not doing some dredging work in the Grasse river?

Mr. RICKEY: Not now.

Mr. KEEFER: Could you not by deepening the tail-race get more power?

Mr. RICKEY: Not very much.

Mr. KEEFER: But you could get some?

Mr. RICKEY: A little.

Mr. KEEFER: How much?

Mr. RICKEY: We could increase the head—I am speaking now from recollection—about 18 inches by considerable additional dredging. That has already been dredged and nearly completed.

Mr. KEEFER: Now, let us be frank and put our cards on the table. Let us start on this principle that Canada does not want in any way to interfere with your work or your ability to get as much aluminum as possible, because Canada is interested in that just as much as is the United States. What I want to get at is this: Now, is this proposed work, speaking frankly, for the ice or to get an additional head?

Mr. RICKEY: It is for the ice.

Mr. KEEFER: The additional head is simply incidental?

Mr. RICKEY: It is incidental.

Mr. KEEFER: And by virtue of getting free of the ice and having this additional head, whether you draw or do not draw more water, you will be able to make more aluminum in January, February and March?

Mr. RICKEY: Yes, sir.

Mr. KEEFER: How much more aluminum, roughly speaking, will you be able to make during these three months?

Mr. RICKEY: We estimate it at 6,000,000 pounds.

Mr. KEEFER: I suppose that will be sold at the current price and will be of considerable value, and naturally you will get some profit on it. I do not want to go into what your profit is, but you get your profit on that 6,000,000 pounds?

Mr. RICKEY: Undoubtedly.

Mr. KEEFER: And we had an estimate that this proposed submerged weir will cost \$125,000 at the most; is that right?

Mr. RICKEY: Yes.

Mr. KEEFER: We did not hear anything about the total cost of the structure before.

Mr. RICKEY: It will cost approximately \$350,000.

Mr. KOONCE: I described these works at Atlantic City.

Mr. KEEFER: I was under the impression that what was described at Atlantic City was a structure that would be removable in the summer months.

Mr. KOONCE: I described it as a removable boom.

Mr. KEEFER: The piers in the centre will not be removable?

Mr. RICKEY: No, sir.

Mr. KEEFER: They will be thirty feet square?

Mr. RICKEY: Approximately.

Mr. KEEFER: The total cost of the proposed boom, and the submerged weir, and the dredging, will be approximately what?

Mr. RICKEY: \$350,000.

Mr. KEEFER: And of that, this weir would cost \$120,000 or \$125,000?

Mr. RICKEY: Yes.

Mr. KEEFER: And the piers will be how much, and the floating boom how much?

Mr. RICKEY: I do not remember; I cannot separate the cost just now.

Mr. KEEFER: And they are being done for ice purposes?

Mr. RICKEY: Yes, sir.

Mr. KEEFER: I suppose that a reasonable use and the benefit of these works will produce in a reasonable time quite an additional profit to your company—probably the work as a betterment will pay for itself?

Mr. RICKEY: I would hope so.

Mr. KEEFER: In what length of time?

Mr. RICKEY: I have not gone into that.

Mr. KEEFER: A railway man generally proposes some betterment and he calculates how long it will be before that betterment pays for itself—how long do you think it will take you to make up your expenditure on that work?

Mr. RICKEY: May I answer that in my own way?

Mr. KEEFER: Any way you like.

Mr. RICKEY: It means so much for us just to keep our labour on during the winter. Ours is a continuous process, and when we lose labourers during the winter it costs us thousands of dollars to get them back again. It is difficult to answer how long it would take for this work to repay the expenditure.

Mr. KEEFER: Might I put this to you—I do not know whether my friend Mr. Gordon, would object or not—if you were permitted to put these works in, have you any objection to letting the United States Government own these works after they are in?

Mr. RICKEY: I cannot answer that.

Mr. KEEFER: The president of the company did not wish to answer that he was willing that we should put them in. Suppose you are permitted to put them in and use them during war conditions, would you be willing to turn them over to the United States Government?



Mr. RICKEY: I cannot speak as to the policy of the company.

Mr. GORDON: Mr. Keefer doubtless knows that it takes the board of directors of the company to decide on questions of that kind, and not the engineer.

Mr. KEEFER: Yes, but it takes this Commission to determine on what terms this work should be allowed, and what terms are reasonable to allow it.

The whole purpose of the matter, as you say, is to get increased ice protection. With your works in now you have told me that you have practically control down at Massena. What is to happen with that dam in at the South Sault and an accident happening to your works by high-water conditions, and you have to shut down and no water is being passed down the Massena canal?

Mr. RICKEY: The water would go over the submerged weir.

Mr. KEEFER: But not to the volume it would without the submerged weir?

Mr. RICKEY: No.

Mr. KEEFER: Naturally you increase the water conditions on the North Sault?

Mr. RICKEY: Yes.

Mr. KEEFER: You frankly tell me, if I understand your evidence aright, that the object of this ice boom with these piers is to divert all the ice over to the Canadian side?

Mr. RICKEY: Yes.

Mr. KEEFER: And I suppose it is natural to say that that does not diminish the ice conditions on the north shore, but increases them?

Mr. RICKEY: That is in the international channel where this ice would go and where it goes every winter when we fail to keep the South Sault channel open. If you will just read the chart here you will see that in 1904, 1907, 1908, 1911, 1914, 1915, and 1916, all of the ice went through the international channel on the north side of Long Sault island.

Mr. KEEFER: Why?

Mr. RICKEY: Because the South Sault was plugged perfectly tight.

Mr. KEEFER: No, I can give you an additional reason why it went through—do you remember making a report to the Dominion Government in 1910?

Mr. RICKEY: On what subject?

Mr. KEEFER: On the subject of ice conditions at this point. I think I have here your letter dated October 26, 1910, to W. A. Bowden, Chief Engineer of Railways and Canals. It is headed, "Description of the work proposed by the St. Lawrence Power Company, Limited, and the Long Sault Development Company in the St. Lawrence river near Barnhart island. Data as to ice jams on the St. Lawrence river between Morrisburg and Cornwall, including blue-print copies of our drawings." Do you recollect that report? It was signed by you. It was on behalf of the Long Sault Development Company, which was the company that was at that time proposing to develop there. Do you remember that?

Mr. RICKEY: To what do you refer?

Mr. KEEFER: The utilization of the Long Sault channel for power purposes.

Mr. RICKEY: Yes, I remember that in a general way.

Mr. KEEFER: Now, as long as that dam is there, good-bye to using the South Sault channel as a power proposition, apart from navigation.

Mr. RICKEY: You could take it out in thirty days.

Mr. KEEFER: That may be, but if we have not the right to take it out, we are in trouble. We might have to pay some one pretty well for taking it out. That is the difficulty. But as long as it is there good-bye to any power proposition on the South Sault.

Mr. RICKEY: I think so.

Mr. KEEFER: You would have to take it out?

Mr. RICKEY: You would have to take it out in order to develop the South Sault.

Mr. KEEFER: In 1906 and 1907 and along there, there were other reasons given. Without reading your report, I will put it in. You give in this report data of the ice jams on the St. Lawrence river between Morrisburg and Cornwall, based on surveys made, and you give under the heading of "surveys" the ice conditions, and it is a very interesting report. You refer to interviews with the different people showing that these ice-jams have usually resulted from the breaking away of ice from the base and lodging along the shores, and the people along the shores desire to have, if possible, an ice bridge, and so on. We will take the South Sault channel, and in this report, speaking of the ice conditions, you say as follows:—

"1. It is a matter of history that the main river channel north of the Long Sault never becomes congested with ice even when the back-water caused by the lake St. Francis ice jam obliterates the rapids, therefore creating conditions essentially the same as will be created by the proposed dam."

You say further: "the South Sault channel was so badly congested that very little water was discharged through it." You said that?

Mr. RICKEY: Yes.

Mr. KEEFER: And you said further: "Practically all of the discharge of the river, about 250,000 second-feet, passed in the main channel north of Long Sault island and south of Barnhart island." Then you say further, under the heading, "Prevention of ice jams in the South Sault channel":—

"The St. Lawrence River Power Company kept the South Sault channel open during the winter of 1905-1906, even when northwest winds caused practically all of the ice in the entire river to pass down the channel. Before and after the above dates no attempt was made to keep this channel open, and every winter it was badly congested with ice jams. This shows conclusively that it is practicable to keep the river channels open provided the work is undertaken with properly equipped crews. In like manner it will be possible to keep open the main river channel on each side of Croil island, after the proposed dams are built, thereby removing all possibility of ice floods in Morrisburg for all future time."

You say further:—

"The experience of four consecutive years in breaking up and preventing ice jams in the South Sault channel shows that similar methods employed in breaking the incipient jams at Croil island, would have prevented the 1887, 1905 and other floods."

In paragraph 10 of your report you touch on the matter again and say:—

“When the proposed dams are built, it will be of great importance to the power companies from an operating standpoint, to keep the river free from congestion. Crews of men will be stationed at the critical points, and the river will be patrolled and kept free from ice jams just as the South Sault channel has been maintained free and open by the St. Lawrence River Power Company.”

You recall your report now?

Mr. RICKEY: I recall that report. May I add a word there?

Mr. KEEFER: Certainly.

Mr. RICKEY: I believe we know a little more about the South Sault channel now than we did then. I was with the company only three years then.

Mr. KEEFER: That was in 1910?

Mr. RICKEY: That was in 1910.

Mr. KEEFER: What has become of the Long Sault Development Company? Is that one of the subsidiary companies?

Mr. RICKEY: I am not competent to answer.

Mr. KEEFER: Do you know whether it was a subsidiary company of this company?

Mr. RICKEY: Not of my own knowledge.

Mr. KEEFER: But you are chief engineer of the company?

Mr. RICKEY: I am.

Mr. KEEFER: And you were chief engineer of the Long Sault Development Company?

Mr. RICKEY: Yes.

Mr. KEEFER: And you are still chief engineer of the Long Sault Development Company?

Mr. RICKEY: No.

Mr. KEEFER: Has it gone out of existence?

Mr. RICKEY: I presume it has, but I cannot speak as to that of my own knowledge.

Mr. KEEFER: You stated that you were chief engineer of the St. Lawrence River Power Company and the subsidiary company?

Mr. RICKEY: Yes, but I have nothing to do with the executive organization of our company.

Mr. KEEFER: When I speak of the St. Lawrence River Company, I mean Mr. Davis' different companies.

Mr. RICKEY: I understand what you mean.

Mr. KEEFER: If you do not get this submerged weir put into the mouth of the river—you have these conditions on the North Sault—did it ever strike you how reasonable it would have been for you to get the submerged weir matter settled before you started dredging?

Mr. RICKEY: I had nothing to do with that.

Mr. KEEFER: I suppose you left it to the president and directors. What would be the effect, if this submerged weir is built there, of ice sticking on the top of that submerged weir?

Mr. RICKEY: It would prevent water from flowing there.

Mr. KEEFER: Is it not prone to stick there? Naturally, with a light draught of water underneath the ice, the ice will come there and stick as it does in the shallow water.



Mr. RICKEY: The South Sault channel from Dodges shoal to the canal intake will be frozen over early in the season.

Mr. KEEFER: With this the proposed way of handling the matter?

Mr. RICKEY: Yes.

Mr. KEEFER: If any ice does come down it would stick there. Supposing, by chance, these piers are not permitted to be built, and you don't have that protection, then you would not have the ice sticking there?

Mr. RICKEY: But the piers are part of the scheme, and, as I understand it, we have the authority to build them.

Mr. KEEFER: You have the authority to build them, but authority is sometimes issued under a misapprehension. You have the authority to build the submerged weir at present, subject to confirmation, but it may be that when the United States realize—as they were led to believe otherwise, apparently—that it does affect the waters in the North Sault, and they have signed their names to a treaty saying that if any such thing is done it is to be brought to the attention of the Government—doubtless it will be brought to the attention of the Canadian Government; don't you think so?

Mr. RICKEY: I am not a lawyer.

Mr. KEEFER: Answer my question. If these piers are not built and you put that dam across there at the mouth of the river, will you not have ice jams on top of that dam? I ask you as an engineer.

Mr. RICKEY: No, I do not believe you would.

Mr. POWELL: There is a current there of about ten miles an hour?

Mr. RICKEY: The current down there now is about four miles an hour, and it would be slowed up to about half a mile an hour.

Mr. KEEFER: Have you ever gone down the south channel in a boat?

Mr. RICKEY: Yes, sir.

Mr. KEEFER: What type of a boat?

Mr. RICKEY: A little launch twenty-two feet long and drawing two and a half feet of water.

Mr. KEEFER: When did you do that?

Mr. RICKEY: I cannot give you the year, but it was about 1909 or 1910.

Mr. KEEFER: If I understand you aright you are to-day taking about one-half of the flow down the South Sault channel?

Mr. RICKEY: About one-half.

Mr. KEEFER: What effect would that one-half have on the depth of water in the South Sault channel?

Mr. RICKEY: Do you mean as to lowering it?

Mr. KEEFER: Yes.

Mr. RICKEY: I cannot give you the figures.

Mr. KEEFER: Approximately?

Mr. RICKEY: I would say about one foot, merely my guess. May I explain that I do not go into all these detailed computations myself.

Mr. KEEFER: I understand that. You are a very able engineer, and if you happen to have that information at hand, I would like you to give it to me. At all events, by drawing this water through the Massena canal to-day you have affected on your own showing the navigation of the South Sault channel by about one foot.

Mr. RICKEY: No, I do not think that.

Mr. KEEFER: Well, it affects the level one foot.

Mr. RICKEY: Yes. But you have had navigation on the shallowest point.

Mr. KEEFER: There would be one foot less water on the shallowest point?

Mr. RICKEY: It is pulled down about one foot in the deep part.

Mr. KEEFER: What about down below. If you pull it down from the deep part, and it does not go down to the shallow part, what is the effect on the shallow part?

Mr. RICKEY: It would affect the depth there.

Mr. KEEFER: How much?

Mr. RICKEY: I cannot answer that. It would undoubtedly lower it some.

Mr. KEEFER: And affect navigation?

Mr. RICKEY: Yes.

Mr. KEEFER: And your charter was that you were to take the water and not affect navigation. That document is filed here, and it speaks for itself.

Mr. RICKEY: It speaks for itself.

Mr. KEEFER: That jetty that was built, I think you said was built in 1903.

Mr. RICKEY: Yes.

Mr. KEEFER: Of course, that was before the inauguration of this Commission under the Treaty.

Mr. RICKEY: Yes.

Mr. KEEFER: And prior to that each Government did its respective work on its own side of the river without relation to the other Government, unless disputes arose. That was all done before, but since then you are aware that the two Governments have agreed that if there were any alterations in the boundary level of the water that the matter had to come before this Commission?

Mr. RICKEY: I do not know anything about that.

Mr. KEEFER: You were not aware of that?

Mr. RICKEY: No.

Mr. KEEFER: And regarding this South Sault channel, if the water be not diverted, I suppose the shoals are subject to improvement by dredging?

Mr. RICKEY: I think if you dredged the shoals out you would have worse navigation. The shoals in effect hold the water back.

Mr. KEEFER: You are right, but I am not speaking of Dodges shoal. I am speaking of the South Sault channel. Could you improve the navigation of that branch?

Mr. RICKEY: I do not believe you could for the reason that the points stick out and obstruct the channel, forming little pools. If you dredged the bays you would have one sheet practically.

Mr. KEEFER: I suppose it would be quite easy to put in a lock there?

Mr. RICKEY: You could put in a lock there.

Mr. KEEFER: The river could be improved by lockage?

Mr. RICKEY: Undoubtedly.

Mr. KEEFER: I was wanting to ask you, for the benefit of the engineers who are jointly considering the problem, what would be the quantity of water that will go through this dredged channel when you have your ice blocking. When any ice jam forms, what volume of water will go through that submerged or dug-out channel?

Mr. RICKEY: I would have to make a calculation as to that. I cannot carry all that stuff in my head. I will make a memorandum and hand it in, if you wish.

Mr. KEEFER: Very well. When you have an ice jam in St. Francis lake, or anywhere else down there, and you have back-water difficulties, do you know what your loss of power in your tail-race is by back water?

Mr. RICKEY: I could compute that.

Mr. KEEFER: What is the head?

Mr. RICKEY: It has gone to an elevation of 188 feet, and our normal level is 162; that is 26 feet. Since we improved Grasse river the ice conditions are not as bad. It does not back up as much, but I do not recollect the tail-race elevations and power-house now.

Mr. KEEFER: I suppose Judge Koonce could furnish us with the report of the War Office engineers?

Mr. GEORGE W. KOONCE: I have the engineer here who made the report. I want to ask you about the effect of the dredged channel. You say that it will probably affect the depth of water or the level of water in the main channel. That is, when the channel you have dredged is not compensated for by the weir. The effect of that would be to lower the level of the water in the main channel on the Canadian side of the St. Lawrence?

Mr. RICKEY: In a minor degree.

Mr. KOONCE: As an engineer, would you consider that that affected the level of the St. Lawrence materially?

Mr. RICKEY: I do not think so in a material degree.

Mr. KOONCE: Would it affect the ability of the Canadian Government or the Canadian people to get a sufficient amount of water for power purposes on the Canadian side?

Mr. RICKEY: Water for power purposes?

Mr. KOONCE: Yes.

Mr. RICKEY: It would not affect it.

Mr. KOONCE: It would not diminish the capacity of the stream either for navigation or for power purposes in any material degree?

Mr. RICKEY: No, sir.

Mr. KOONCE: That is your opinion as an engineer?

Mr. RICKEY: Yes, sir.

Mr. KOONCE: I simply wanted to bring that out owing to the fact, it seems to me with all due deference to Mr. Keefer, that this insistence upon the part of Mr. Keefer that it affects the level of the waters on the Canadian side is a dream, or at all events somewhat technical.

Mr. KEEFER: I can assure Judge Koonce that it is no technical matter at all. My instructions are that without these compensating works—and it appears to me that these compensating works are to fill up this defect and not because of ice conditions—without these compensating works the level on the north shore would be very seriously reduced and would very seriously affect our navigation, by several inches, and to reduce the depth of water by two inches is a very serious thing. It is important that the Government of Canada should have consultation with the United States Government on a matter such as this, and that the engineers of both countries should consider the question. In the past, whenever the United States as a nation was seeking to do any dredging work, they always brought it to the attention of Canada, but when this application came up, unfortunately that course was not pursued, and the matter has apparently practically been left to the company's engineers.



Mr. LEIGHTON McCARTHY: What Mr. Keefer says there is not the fact as the evidence discloses. The application was made for all that was required by the company to the proper engineering department of the United States.

Mr. KEEFER: This is not the time for argument.

Mr. McCARTHY: Mr. Keefer keeps insisting that something wrong was done in the matter, and I am protesting against his remarks.

Mr. KING: The argument in this matter may be deferred until I ask a couple of questions that are very germane to what the witness is saying. Judge Koonce has limited the effect of his question entirely to the availability of water for power purposes on the Canadian side. (To the witness) but do you venture an opinion to the effect that the reduction of two inches of water to which you have already frankly committed yourself in evidence would not prejudicially affect navigation on the Canadian side?

Mr. RICKEY: I said, possibly two inches. I have not gone into it. It is merely my opinion that it would be possibly two inches.

Mr. FRANCIS KING: Qualifying it, as you say, to the extent of possibly two inches, and inserting the word "possibly," do you venture your opinion as an engineer to the effect that that would not prejudicially affect navigation on the Canadian side?

Mr. RICKEY: To that question you want an answer, "yes or no", and I cannot answer it in that way.

Mr. KING: You gave Judge Koonce an answer very emphatically that in your opinion as an engineer you would not consider it prejudicial to power on the Canadian side.

Mr. RICKEY: That can be answered, yes or no.

Mr. KING: I am asking you now with respect to navigation, and in order to show that Judge Koonce's question did not go the whole way.

Mr. RICKEY: I do not think it prejudicially affects navigation, because the wind varies from hour to hour on the St. Lawrence river, and the wind affects the depth of water for navigation. I have had no opportunity of getting readings over any extended periods, which would enable me to answer your question.

Mr. KING: Well, if the wind is one way it might not affect navigation by taking two inches off, but if the wind is the other way are we not affected in our navigation?

Mr. RICKEY: It might be affected in a minor way.

Mr. POWELL: With respect to this question of yours with regard to the diminution of head on the Canadian side, would there be a reduction on the sill of the canal of two inches?

Mr. KING: He suggested that.

Mr. POWELL: Is that what you are driving at?

Mr. KING: That is what I am driving at, and not only on the sill. As to the effect of two inches on the sill, we can decide that point without evidence. Referring to Farran's Point canal, suppose navigation were not possible, and boats had to pass south of Croil island, what about the proposed works?

Mr. RICKEY: The velocity of the current through the Big Sny will be increased five to six per cent. The velocity of the current there now is about four miles an hour so that it would be four and a quarter miles an

hour in round numbers. That velocity would be less than the velocity at Bradford point, and all the boats have to pass there. So that any boat that could not get to Bradford point could not go through Farran's point or lock 22 and get around Croil island.

Mr. KING: I want to ask one other question. I was asking the question this morning of Mr. Davis whether with the proposed works completed your company would not be able, granting that you had a sufficiently large capacity in your power plant to withdraw a very substantially larger amount of water from the St. Lawrence river to the Grasse river. Mr. Davis did not think so. Do you agree?

Mr. RICKEY: If our turbines had a larger capacity, and we could open them up, we would get more water.

Mr. KING: Or if you had more turbines and more units?

Mr. RICKEY: If we had more turbines and more units, you could get more water.

Mr. KING: And you would say quite a substantial amount of water when you have an increased head of 6 feet?

Mr. RICKEY: You can get more water, and we can do so to-day. We are not drawing the capacity of that canal to-day.

Mr. MARSHALL McLEAN: Could you give us in a brief statement the history of when the different units were installed for the Massena plant? I understand from you that there are thirteen units, eight large and five small?

Mr. RICKEY: Yes. The small units were installed in 1907 or 1908, replacing at that time some old Dayton Iron Works turbines. The vertical units were installed either in 1912 or 1913, although it may have been in 1911. I would have to look that up.

Mr. McLEAN: Does that statement apply to all the thirteen units?

Mr. RICKEY: That statement covers the thirteen units.

Mr. McLEAN: Can you tell me how many pounds of aluminum one horse-power may be counted upon to smelt in one year?

Mr. RICKEY: I cannot. That is entirely outside my department, and I never looked it up.

Mr. McLEAN: In estimating the total horse-power of a plant, do you not consider the amount of ore that power will smelt?

Mr. RICKEY: My department has never considered that in ten years.

Mr. JAMES WHITE: It has practically been conceded that 86,000 horse-power is at Massena. Is there a direct and an alternating current?

Mr. RICKEY: Yes.

Mr. JAMES WHITE: How much is direct and how much alternating?

Mr. RICKEY: About 15,000 or 16,000 alternating current, and the rest is direct current.

Mr. JAMES WHITE: That would mean that you develop about 70,000 horse-power for the manufacture of aluminum. I understand that the alternating current is not used?

Mr. RICKEY: We have a 6,000 horse-power motor generating throughout, and at times we rectify alternating current by passing it through and using it for aluminum.

Mr. JAMES WHITE: Do you do that with all your alternating or with only a portion of it?

Mr. RICKEY: Only with a portion.

Mr. JAMES WHITE: How much energy are you getting from the Cedar Rapids Company?

Mr. RICKEY: I cannot answer that. That comes under the operating department, with which I have nothing to do.

Mr. JAMES WHITE: I would also like to ask whether the shortage you refer to is wholly due to the lack of water or to ice conditions, or whether part of it is due to the reduction of the amount of energy exported to you by the Cedar Rapids Company in December, January, February, and March?

Mr. RICKEY: The shortage of the 6,000,000 pounds of aluminum that we are discussing here is due solely to the ice conditions at the Massena power plant. It does not refer to any shortage at Cedar Rapids.

Mr. JAMES WHITE: Am I not correct in saying that there was a shortage last winter?

Mr. RICKEY: I believe there was.

Mr. JAMES WHITE: And the Cedar Rapids Company cut down the amount they were exporting to you?

Mr. RICKEY: I heard that, but of my own knowledge I do not know.

Mr. JAMES WHITE: Would that account for part of your shortage?

Mr. RICKEY: Not of this 6,000,000 pounds of aluminum. I want to make it clear that the 6,000,000 pounds shortage is entirely attributable to ice conditions in the Massena canal.

Mr. JAMES WHITE: Did the cutting down of the amount exported by the Cedar Rapids Company reduce your output in any way whatever?

Mr. RICKEY: The total output of the Massena plant. But that is divided into what we call the Cedar Rapids part of the plant, meaning the power from the Cedar Rapids, and the canal plant, meaning that portion of the plant which gets its power from the canal.

Mr. JAMES WHITE: Have you figures showing the shortage due to the cutting down of the exportation of power from the Cedar Rapids?

Mr. RICKEY: I have not.

Mr. ARTHUR V. WHITE: Do you recall about 1910, when the Long Sault project was under consideration, it was contended that there would be a serious ice menace resulting from the placing of such structures as were set forth in the plans of the Long Sault Development Company for the development of the whole river? At that time you presented a report, from which Mr. Keefer read, showing the great carrying capacity of the South Sault channel for ice, under certain conditions. That is, when a strong northwest wind had been blowing, that South Sault channel had practically carried all the ice of the river.

Mr. RICKEY: Yes.

Mr. ARTHUR V. WHITE: And the proposed submerged weir will cut off that channel?

Mr. RICKEY: Yes.

Mr. ARTHUR V. WHITE: Any if later on any development of the whole river were to take place, then whatever ice menace does exist or would exist as a result of placing these structures, would have that menace augmented to the extent of withdrawing the ice-carrying capacity formerly existing in the south channel.

Mr. RICKEY: No, sir.

Mr. ARTHUR V. WHITE: Why not?



Mr. RICKEY: Because you are going to develop the Long Sault. I take it that you are referring to the complete development of the Long Sault?

Mr. ARTHUR V. WHITE: Yes.

Mr. RICKEY: Then you must use the water that flows in the South Sault channel. If that is the case that water has to go through the power house and will not go through the South Sault channel. In other words, the South Sault channel would be developed and that means that large quantities of ice cannot be passed through that channel.

Mr. ARTHUR V. WHITE: That is my point. It is that the ice cannot pass through the South Sault channel, and, therefore, the main channel must carry all the ice.

Mr. RICKEY: Just as it did last winter.

Mr. ARTHUR V. WHITE: But there have been times when it has not, and you indicated before that relief would be found in the ice-carrying capacity of the South Sault channel.

Mr. RICKEY: I would have to refer to a report I wrote eight years ago.

Mr. ARTHUR V. WHITE: I am referring to the quotations which Mr. Keefer read from your report.

Mr. RICKEY: It strikes me that Mr. Keefer read a brief extract from that which is a rather elaborate report.

Mr. ARTHUR V. WHITE: The point is this: that the South Sault channel, under normal conditions, carries ice.

Mr. RICKEY: I would say that under normal conditions the South Sault channel does not carry ice, because every winter that channel will become plugged with ice if you do not keep a gang of men to fight it. Several winters we have done our utmost because the operation of the plant depended on it, and we were absolutely unable to keep it open.

Mr. ARTHUR V. WHITE: And under normal conditions you found it valuable to have the South Sault channel available to carry ice?

Mr. RICKEY: Yes, but we could not keep it open.

Mr. ARTHUR V. WHITE: And in this report you represented the conditions under which this was kept open?

Mr. RICKEY: Yes; that was after we had three years' experience, and now we have had ten years' experience, and I have changed my mind.

Mr. ARTHUR V. WHITE: It has possibilities of carrying ice?

Mr. RICKEY: Yes.

Mr. ARTHUR V. WHITE: If these potential means of carrying ice are dispensed with, it will be an increased aggravation of whatever ice conditions would normally present themselves in that channel?

Mr. RICKEY: Yes, and prior to the company going to Massena in 1903 and 1904, when they first began to fight off ice, I think it is safe to say that every winter that channel was plugged full of ice, and all the ice of the river went through the North Sault, so that the putting in of this submerged weir and the operation of the plant will merely reproduce conditions that prevailed every year in the past.

Mr. ARTHUR V. WHITE: Granting that that this is so, it obliterates the possibility of utilizing the South Sault channel, and becomes an increased menace to the full development that must take place in the other part of the river.

Mr. RICKEY: What do you mean by development?

Mr. ARTHUR V. WHITE: The full power development of the river.

Mr. RICKEY: That seems reasonable if the South Sault channel could contribute anything to the relief of ice conditions. May I explain here, I think it is very germane to the subject, it would save time if I could give testimony on that point?

Mr. ARTHUR V. WHITE: Just a moment, we must not get away from the point I am trying to make. If the South Sault channel has any ice-carrying capacity at all, and you entirely shut that capacity off by a submerged weir in that channel, and the main channel has to carry all the ice, consequently, then, there is an increased ice menace in the north channel.

Mr. RICKEY: Now I get your point. I think I understand the question the way you stated it first.

Mr. ARTHUR V. WHITE: The point in the inquiry is this: that Canada's share in the undeveloped power at this site must come out of what is left of these channels to be dammed, and if these remaining channels must carry all the ice, then those who may seek their power at this portion of the river are at an increased disadvantage.

Mr. KOONCE: The trouble about the reduction of power is not in these channels that carry the ice, but in the channels where the ice gets blocked. It is the ice block in the main channel that causes the difficulty.

Mr. RICKEY: I have not been able to find any records of the North Sault and the Big Sny being blocked with ice. I qualify that to this extent, the North Sault last winter was plugged to a point approximately 4,000 feet westerly from the head of Sheek island. But the main channel north of Long Sault island, from the downstream end of the Big Sny, down to the head of the Long Sault rapids, has never to my knowledge been plugged, and I have made inquiries from scores of people. Neither has the Big Sny ever been plugged with ice. The blocking of the South Sault channel entirely would not affect the ability of our Canadian friends to get power in the main channel.

Mr. LEIGHTON MCCARTHY: In the development of a large scheme, is it not conceded that this dam would have to come out?

Mr. KEEFER: If the dam was owned by the Government there would not be any difficulty about it.

Mr. ARTHUR V. WHITE: When you were giving the data respecting the conditions which would prevail under low water conditions and average water conditions, with this structure in, did you give the corresponding data for the maximum water conditions?

Mr. RICKEY: Yes, it is about the same, in the neighbourhood of four inches.

Mr. ARTHUR V. WHITE: And that maximum occurs in summer time, when it would have its maximum effect on navigation?

Mr. RICKEY: Yes, and it seems paradoxical, but as the river goes up the more water goes over the weir. It is a sort of regulating affair.

#### TESTIMONY OF B. F. GROAT.

B. F. GROAT, a witness produced for and on behalf of the applicant, after being first duly sworn, was examined and testified as follows:—

Mr. GEORGE B. GORDON: Mr. Groat, where do you live?

Mr. GROAT: Pittsburgh.

Mr. GORDON: What is your profession?

Mr. GROAT: Hydraulic engineer.

Mr. GORDON: How long have you followed that profession?

Mr. GROAT: Perhaps for twenty-five years.

Mr. GORDON: You are now with the Aluminum Company of America?

Mr. GROAT: Yes, sir.

Mr. GORDON: How long have you been with them?

Mr. GROAT: Since about 1909.

Mr. GORDON: I wish you would state whether or not you made a study yourself of conditions at Massena with reference to ice?

Mr. GROAT: I have been studying the conditions there with reference to ice for a number of years.

Mr. GORDON: And I believe that the details of this present plan of the Aluminum Company are yours; that is, you have worked out the details?

Mr. GROAT: Well, I proposed this sort of a scheme to them, the general plan.

Mr. GORDON: I wish you would state what your judgment is as to what the effect of this complete scheme when it is carried through, the dredging of the shoals, the ice booms, and the proposed submerged weir, will have upon the ice conditions at Massena?

Mr. GROAT: The entire idea of that scheme was that it would not seriously change the levels on the Canadian side, although it would give an additional rise of water on the American side, and it would shunt the ice down the Big Sny.

Mr. GORDON: Well, that is what I want to call your attention to first, the effect of it upon power conditions at Massena. How do you think it will affect the ice question?

Mr. GROAT: Well, it will relieve the ice troubles in the winter, undoubtedly.

Mr. GORDON: Why do you say that it will undoubtedly do it?

Mr. GROAT: We have made an extensive study of that, first trying it out by calculations and afterwards verifying it by our model experiments.

Mr. GORDON: And a part of this work has been done; that is, a part of this dredging?

Mr. GROAT: Yes, sir.

Mr. GORDON: That has been done under your supervision?

Mr. GROAT: In a general way, yes, sir.

Mr. GORDON: And have you observed the present effect of that dredging upon the currents there, upon the flow of the water?

Mr. GROAT: Yes, sir.

Mr. GORDON: I wish you would state briefly what the theory of that whole work is as to taking care of the ice.

Mr. GROAT: The theory is that the wing dam will throw the surface currents across those channels while the bottoms of the channels will carry the water down that dredged channel underneath the surface currents so that it will be comparatively free from floating ice.

Mr. GORDON: That is, if I understand you, in the first place, the natural currents will go down the Big Sny?

Mr. GROAT: Down the Big Sny across the tops of those channels.

Mr. GORDON: The channels being dredged underneath and approximately at right angles, the water that would go through the South Sault will be what might be called water from the bottom of the river?

Mr. GROAT: I call it a subsurface diversion of the water.

Mr. GORDON: That is you are going to divert the water that goes into the South Sault from the bottom of the St. Lawrence river instead of from the top?







Mr. GROAT: Yes, sir.

Mr. GORDON: You are going to let the top currents go down the Big Sny?

Mr. GROAT: Yes, sir.

Mr. GORDON: And the diversion of the water into the South Sault will be from the subcurrents of the river?

Mr. GROAT: Yes, sir.

Mr. GORDON: How does that affect the ice and the drift in the river?

Mr. GROAT: The ice simply passes across those channels and goes on down the Big Sny while the ice free water goes on down the Big Sault and to the power house.

Mr. GORDON: What is the effect, in a hydraulic way, of your drawing the water through the bottom of the river, through this dredged channel 150 feet wide, into the South Sault channel? How does the water act when it goes through there? Does it come up to the top again?

Mr. GROAT: Yes; the water is diverted across these channels and in a somewhat curved path, and then follows down the Big Sny, whereas the water for the channel goes in on the bottoms of these finger-like channels and as soon as it passes under the main surface current it rises to the surface and throws a certain portion of the water back upstream, so to speak, so that you can actually put a cake of ice right here at this point below the wing dam in this channel leading down the South Sault and it will not go down the South Sault at that point, but it will come up here (indicating on map) and go on down the Big Sny.

Mr. GORDON: As you stand there at Talcotts point to-day with the dredging in its present condition, can you see the surface currents going apparently upstream there?

Mr. GROAT: Yes, sir.

Mr. GORDON: And it is quite perceptible to the eye?

Mr. GROAT: It is very perceptible.

Mr. GORDON: So the actual conditions have been produced there by the dredging which you anticipated from your calculations and your models, would be produced?

Mr. GROAT: I would say, very exactly.

Mr. GORDON: So that the dredging of the channels themselves, without any ice boom or without anything else, tends to keep the ice going down the Big Sny instead of into the South Sault?

Mr. GROAT: Yes, sir.

Mr. GORDON: What would you depend on to check that action of the ice going into the South Sault?

Mr. GROAT: In case we build these channels and operate them as intended, the ice will sweep around to the north on the other side of the channel and then pass down the South Sault unless there is a boom across there to prevent that action.

Mr. GORDON: Do you propose to build that boom for the purpose of keeping the ice that has been carried across these channels from going into the South Sault?

Mr. GROAT: That is the object of the boom.

Mr. GORDON: Then, what is the object of the submerged weir below the island?



Mr. GROAT: The object of the submerged weir is to raise the level of the water at our intake and reduce the slope passed down over the shoals so that we will not have such a strong draft under and across this boom tending to sweep the ice under it, and, in fact, tending to carry the boom away altogether.

Mr. GORDON: It is a safeguard?

Mr. GROAT: It is a safeguard.

Mr. GORDON: Then, how about the surface freezing at that pool?

Mr. GROAT: The pool of water below that boom and extending down to the crest of the submerged weir will undoubtedly freeze over.

Mr. GORDON: How would you get your water after that freezes?

Mr. GROAT: The water would flow under the ice and into the mouth of the canal.

Mr. GORDON: The additional deepening of that channel is not necessary to get water into the canal except in the ice times?

Mr. GROAT: That is all.

Mr. GORDON: You examined also the question of how it would affect navigation on the Canadian side, did you not?

Mr. GROAT: In a general way, yes, sir.

Mr. GORDON: What is your opinion as to that?

Mr. GROAT: We did not think that it would have any material effect on the navigation on the other side of the river.

Mr. GORDON: You may cross-examine.

Hon. HUGH GUTHRIE: You have examined the South Sault branch from the shore and from the river, I understand?

Mr. GROAT: Yes; I have seen it.

Mr. GUTHRIE: You have gone down the river.

Mr. GROAT: Yes.

Mr. GUTHRIE: What did you go in

Mr. GROAT: I have been in a row-boat.

Mr. GUTHRIE: You have gone in a launch, too, I understand?

Mr. GROAT: Yes; I have been over there in a launch.

Mr. GUTHRIE: If this proposed work is carried out there is no question that there would be no more launches or boats go down that river, is there?

Mr. GROAT: I think so. I think they would go right down here (indicating on map) in the summer time, and right down this channel.

Mr. GUTHRIE: But if your weir, I say, is built?

Mr. GROAT: They can go right down here (indicating on map) as far as the weir is concerned.

Mr. GUTHRIE: Can they go there (indicating)?

Mr. GROAT: Not past the weir.

Mr. GUTHRIE: That is a block to it. If there is navigation there, navigation is to be blocked by your proposed works?

Mr. GROAT: I would say so.

Mr. GUTHRIE: Well, now we are agreed. You have given us a description of the ice flow that you expect, and, if I understood you right, it is this: that the effect of your work is to change the current at Dodges shoal and carry the surface or top water of the flow around through the Big Sny and into the Canadian channel at the north of the island, and so on down?

Mr. GROAT: The surface water does that to a certain extent now.

Mr. GUTHRIE: The effect will be to divert that ice and take it through the Canadian channel?

Mr. GROAT: Yes.

Mr. GUTHRIE: Are you aware of winter conditions or ice conditions in the spring in the Canadian canals?

Mr. GROAT: I have seen the canals during the winter time.

Mr. GUTHRIE: Have you ever been there when the floating ice comes down?

Mr. GROAT: I have seen the ice.

Mr. GUTHRIE: Have you been there when there has been anything like ice danger to the extent of destruction of the locks?

Mr. GROAT: I have seen a good deal of ice piled up in the St. Lawrence river. I do not know that I was ever there when the locks were in danger.

Mr. GUTHRIE: Do you know that we have to maintain controls to take care of that ice to prevent injury to our locks on the north side?

Mr. GROAT: I suppose you do.

Mr. GUTHRIE: If you throw more ice over there we are going to have to do more controlling, are we not?

Mr. GROAT: The same amount goes down there now as will afterwards go down there.

Mr. GUTHRIE: Then, I cannot see why you are diverting this flow of ice?

Mr. GROAT: The object of diverting this ice is to let this water down there. If we permit the South Sault to jam with ice, then all this water is diverted down the Big Sny and carries the ice along with it, whether we have any ice booms there or not.

Mr. GUTHRIE: Then, your contention is that you are not diverting any ice? You said a minute ago that you were diverting that ice.

Mr. GROAT: We divert the ice the same as the ice jam diverts it now in the winter time.

Mr. GUTHRIE: And no more?

Mr. GROAT: No more and no less, so far as I can see.

Mr. GUTHRIE: Then, you do not agree that your work is going to put any more ice in the North channel?

Mr. GROAT: I should not think so.

Mr. GUTHRIE: Now you have changed your mind since I mentioned the fact that your work was going to affect our locks, have you not?

Mr. GROAT: I would like to know when I changed my mind.

Mr. GUTHRIE: Did you not do it when I said we were having trouble with our gates?

Mr. GROAT: I understood you did.

Mr. GUTHRIE: And your evidence is that you are still diverting ice down the Canadian channel?

Mr. GROAT: We are.

Mr. GUTHRIE: Have you made any examination of the levels on the Canadian side?

Mr. GROAT: Yes; to a certain extent.

Mr. GUTHRIE: Take the cut you have put through Dodges shoal now; without any more works, just that cut, how much have you reduced the levels on the Canadian side?

Mr. GROAT: Well, I am sure I could not answer that question.

Mr. GUTHRIE: You said you had examined them?

Mr. GROAT: I have examined the Canadian levels.

Mr. GUTHRIE: Do you know at the present moment they are from eight to ten inches lower?

Mr. GROAT: I should doubt that very much.

Mr. GUTHRIE: Why are you doubtful of it? From any examination you have made?

Mr. GROAT: I should not think—in fact, I know—that there is scarcely enough water being diverted down through these channels to make such a difference as that now.

Mr. GUTHRIE: Well, there is a diversion of a cut 150 feet wide and 20 feet deep, is there not?

Mr. GROAT: No, sir.

Mr. GUTHRIE: Why not?

Mr. GROAT: In the first place, there was a considerable amount of area there before we put this cut in.

Mr. GUTHRIE: Yes, sir; I heard that from the last witness.

Mr. GROAT: And for another reason we have dikes and dredges there that are preventing that from going down.

Mr. GUTHRIE: Do you seriously want us to believe that your dredges and dikes are holding back that water to any extent?

Mr. GROAT: I know they are.

Mr. GUTHRIE: When your dam is constructed, if it is authorized, it will compensate for your cut through the shoal, I suppose?

Mr. GROAT: That was the idea of the whole thing.

Mr. GUTHRIE: Then, if your dam is not there there is no compensation, is there?

Mr. GROAT: Well, there is some compensation.

Mr. GUTHRIE: But no substantial compensation?

Mr. GROAT: Yes; a considerable amount.

Mr. GUTHRIE: There must be a lowering of the levels on the other side?

Mr. GROAT: Yes; to some extent.

Mr. GUTHRIE: Did you examine the situation there for the Long Sault Development Company some years ago?

Mr. GROAT: No, sir.

Mr. GUTHRIE: Did you have anything to do with that?

Mr. GROAT: Very little. I made only a little study of currents and surface levels.

Mr. GUTHRIE: You were on the ground, were you not?

Mr. GROAT: Yes; I was over the ground.

Mr. GUTHRIE: And at that time you were an employee of the Aluminum Company?

Mr. GROAT: No, sir.

Mr. GUTHRIE: By whom were you sent there?

Mr. GROAT: Mr. John R. Freeman.

Mr. GUTHRIE: Who was he?

Mr. GROAT: An engineer from Providence, Rhode Island.

Mr. GUTHRIE: For whom were you working?

Mr. GROAT: John R. Freeman.

Mr. GUTHRIE: For whom was he working?

Mr. GROAT: I think he was working for the Long Sault Company at that time.

Mr. GUTHRIE: You said at the beginning of your evidence that you had been with the Aluminum Company of America since 1909.



Mr. GROAT: I said about 1909.

Mr. GUTHRIE: Well, it was about 1910 or 1911 that the difficulties arose with the Long Sault Development Company, was it not?

Mr. GROAT: Well, it was in 1909 that I first went there to study currents and levels for John R. Freeman.

Mr. GUTHRIE: In 1909 you became an engineer of the Aluminum Company of America?

Mr. GROAT: No; I think not.

Mr. GUTHRIE: I am only taking your own former statement made five minutes ago.

Mr. GROAT: I said about 1909. It was in 1909 that I went there first for John R. Freeman. I think it was a little later than that that I was first employed by the Aluminum Company.

Mr. GUTHRIE: How much later?

Mr. GROAT: Well, I do not know; I cannot remember the exact dates.

Mr. MARSHALL McLEAN: Can you tell me, sir, how many pounds of aluminum a horse-power can be counted upon, under ordinary circumstances, to smelt during one year?

Mr. GROAT: No, sir.

Mr. McLEAN: Have you ever calculated it?

Mr. GROAT: No, sir.

Mr. McLEAN: Are you the engineer in charge of the Massena works?

Mr. GROAT: No, sir.

Mr. McLEAN: Are you familiar with the output of aluminum in the Massena works?

Mr. GROAT: Not very.

Mr. McLEAN: Did you hear the testimony of Mr. Davis, the president of the company, this morning?

Mr. GROAT: I was here at the time he gave it.

Mr. McLEAN: Did you hear him testify as to the amount of aluminum that was produced by the Massena works during 1917?

Mr. GROAT: I think I did, but I forget the amount.

Mr. McLEAN: Fifty-eight million pounds, was it not?

Mr. GROAT: I do not remember the figures exactly.

Mr. McLEAN: Mr. Davis will perhaps correct me if I am wrong. Was it not fifty-eight million pounds, Mr. Davis?

Mr. DAVIS: Fifty-eight million pounds, yes.

Mr. McLEAN: Mr. Groat, do you know what horse-power is generated in the Massena plant?

Mr. GROAT: There is about 86,000 horse-power there now.

Mr. McLEAN: Is that horse-power all used in the smelting of aluminum ore?

Mr. GROAT: I could not testify to that, although I am pretty sure that all of it is not.

Mr. McLEAN: Do you know what percentage from that horse-power is used for the smelting of aluminum ore?

Mr. GROAT: I should say practically all of it, but I do not know the percentage.

Mr. McLEAN: Would it be a difficult operation for you to compute from those figures how much aluminum would be smelted by one horse-power during a year?

Mr. GROAT: I do not know how to compute the amount of aluminum made by a horse-power.

Mr. McLEAN: If you know the output of this plant for one year and the amount of horse-power consumed in the output for one year, is it not a possible thing for you to determine how much aluminum at that point one horse-power would smelt in a year?

Mr. GROAT: No, because I do not know how much horse-power is used for the making of aluminum.

Mr. McLEAN: If the Commission would allow Mr. Davis to furnish that information, I would be glad to have him do it.

Mr. TAWNEY: How is it material to the question before the Commission here?

Mr. McLEAN: It has been brought out in the testimony that there is a possibility of 16,000 additional horse-power through the erection of this weir.

Mr. TAWNEY: Well, suppose that is true; what has that to do with the question of whether the weir should be approval or disapproved?

Mr. McLEAN: I presume one of the questions that this Commission is to determine is whether or not this application is essentially and primarily made because of ice conditions, or whether or not it is to increase the possibilities of power development of this plant.

Mr. TAWNEY: I do not think that is material, because in either case the applicant would have the right to file his application if he had authority from the Government of the United States, in whose territorial jurisdiction the construction is to be located.

Mr. McLEAN: It is perhaps more pertinent to the questions in which New York State is interested than the question of navigation, but it seems to me so bound up in that question that I thought it would be permissible for me to ask the question.

Mr. TAWNEY: As to the effect of the construction, I can see that whatever relates to the rights of the people on either side of the line would be material. As to the motives actuating the applicant in filing this application, I do not think it has anything to do with it.

Mr. McLEAN: I presume that this Commission will give some consideration to the representations made here by the representatives of the State of New York. I said that the State stood ready to co-operate in every way that it could in the necessities created by this war condition. If, therefore, the State were convinced that this was purely and absolutely a project to remove conditions which interfered with the production for the use by the Government and the Allies of war materials, it might waive the raising of certain questions which it would be absolutely compelled to raise at this time if this was merely a project to increase the amount of water to be taken from the St. Lawrence river through an obstruction placed in that river, because of the obstruction to navigation which—my friend, Judge Koonce, to the contrary notwithstanding—the State of New York has a very vital interest in indeed. Now, that is the only way that I see that it would be pertinent.

Mr. MAGRATH: Go ahead with your question.

Mr. McLEAN: My question was, Mr. Davis, how many pounds of aluminum, under ordinary circumstances, can the plant at Massena be counted upon to smelt in a year by one horse-power?

Mr. DAVIS: One horse-power, whether at Massena or elsewhere, will produce about 450 pounds of aluminum per annum. I might add that perhaps you have been led astray by the computing of the total output of the Massena works which I gave this morning as being applicable only to this power canal. You understand that the total output of the Massena plant is that which was produced by this 85,000 horse-power, or whatever it may be, from the canal, together with something like 75,000 horse-power from Cedar rapids.

Mr. McLEAN: I might say, Mr. Davis, that our figures were very close to yours. We figured it at 441 pounds.

Mr. DAVIS: It is very gratifying, after thirty years, to find that I am right.

Mr. KING: Mr. Groat, in your computations have you figured the amount of water which will be withdrawn through this channel you have dredged through Dodge shoal?

Mr. GROAT: I think that will depend entirely upon the surface slopes of the water.

Mr. KING: Granting that you withdraw the twenty-eight thousand or twenty-nine thousand cubic feet per second, which a previous witness has mentioned, in order to develop your 86,000 horse-power, how much water are you taking through this channel more than you were before it was dredged?

Mr. GROAT: Well, really with this weir in now——

Mr. KING: No; the weir is not in.

Mr. GROAT: Well, you will probably be taking from ten thousand to twelve thousand second-feet additional down that channel. But we are not taking that now for the reason I have explained to you before, that the dredges are lying in there, and there is less water there at the present time.

Mr. KING: Did you ever make a computation as to how much water a dredge holds when it lies in a river?

Mr. GROAT: Well, it holds a good deal where it lies there now. The dike which has been thrown up along the lower ends of these channels assist in holding the water back, so that the appearance of the shoal now indicates very plainly that there is not as much water flowing there as normally?

Mr. KING: But those are temporary?

Mr. GROAT: Yes.

Mr. KING: And taking those out you would have 10,000 or 12,000 second-feet?

Mr. GROAT: I should say something in that neighbourhood. That is something uncertain until we get a channel there. It is there now, but we do not know it until we measure that quantity of water exactly.

Mr. ARTHUR V. WHITE: What would be your estimate of the total horse-power that can be developed at Massena, provided you took all the water that it is physically possible to get through your power canal, say under present circumstances and after the submerged weir is in. I am assuming, of course, that you increase your installation so as to utilize the water?

Mr. GROAT: Well, if it is done with the greatest possible ideas of conservation, I suppose there would be a capacity there of probably two hundred thousand horse-power.

Mr. ARTHUR V. WHITE: For the power canal?

Mr. GROAT: For the whole thing



Mr. ARTHUR V. WHITE: With the dam in?

Mr. GROAT: With the dam in.

Mr. ARTHUR V. WHITE: What would you estimate it to be with the submerged weir out?

Mr. GROAT: We can draw more water, but we would not get a great deal more power there.

Mr. ARTHUR V. WHITE: Suppose you had turbine capacity at the other end of your power plant. What is the capacity of your power canal in the delivery of water and its equivalent of power production?

Mr. GROAT: Well, I have never figured that very carefully, but I should say we could not go greatly beyond what we are doing now, because when we begin to draw harder we would pull our head down and lose water without an offset.

Mr. ARTHUR V. WHITE: Are you continuing the dredging in the channel at the present time?

Mr. GROAT: We have some more dredging to do in the Grasse river.

Mr. ARTHUR V. WHITE: Have you anything to do with the main power canal at the intake?

Mr. GROAT: I think that is very nearly done. There may be a trifle left to be done.

Mr. ARTHUR V. WHITE: So that with the improvement at Dodges shoal and the submerged weir you would be able to draw enough water through the canal to develop 200,000 horse-power?

Mr. GROAT: If we put in the additional improvements in the way of dredging and power-house and machinery and all that; I mean the maximum.

Mr. JAMES WHITE: In other words, all those improvements are worth 113,000 horse-power additional?

Mr. GROAT: I should say if it is done with the best ideas of conservation you could get up around in there somewhere. I am, of course, giving my opinion now.

Mr. POWELL: Mr. Groat, have you any data that shows what the natural flow of that South channel is in the course of nature?

Mr. GROAT: We have made gauging and studies which indicate that the normal flow of the South Sault channel is about 20 per cent of the entire flow of the St. Lawrence river.

Mr. KEEFER: Is that subsequent to or before the building of your canal?

Mr. GROAT: That was before the canal was built.

Mr. TAWNEY: Have you not had gauges there on the South Sault channel to show what the flow is in second-feet?

Mr. GROAT: We have actually gauged the South Sault channel, yes, sir.

Mr. TAWNEY: What does the data show as to the actual number of second-feet?

Mr. GROAT: One of these gaugings, as I remember it, gave about 40,000 second-feet at a rather low stage, while another at another time gave about 50,000 second-feet at a considerably higher stage, and both of those appear to be about 20 per cent of the corresponding stage of the St. Lawrence river.

Mr. POWELL: Was that before or after you excavated the bed of the stream?

Mr. GROAT: It was before we had put in these channels here (indicating on map).







## TESTIMONY OF HENRY HOLGATE.

HENRY HOLGATE, of Montreal, a witness produced for and on behalf of the applicant, after being first duly sworn, was examined and testified as follows:

Mr. GEORGE B. GORDON: Mr. Holgate, where do you live?

Mr. HOLGATE: In Montreal.

Mr. GORDON: What is your business?

Mr. HOLGATE: I am an engineer.

Mr. GORDON: How long have you followed your profession?

Mr. HOLGATE: I may say that perhaps it would date from the time that I became a member of the Society of Canadian Civil Engineers. That was in 1887.

Mr. GORDON: Have you paid particular attention to hydraulic engineering?

Mr. HOLGATE: Yes, sir; for some years.

Mr. GORDON: Are you familiar with the St. Lawrence river in the neighbourhood of the Long Sault?

Mr. HOLGATE: Fairly familiar; yes, sir.

Mr. GORDON: How long have you known the river?

Mr. HOLGATE: I have known that portion for probably nine or ten years.

Mr. GORDON: Have you examined the plans that have been made, and are you familiar with the scheme which has been developed by the St. Lawrence River Power Company for alleviation of the ice difficulties at the Massena canal?

Mr. HOLGATE: Yes, sir.

Mr. GORDON: Have you examined the data as to the water levels, and all that sort of thing?

Mr. HOLGATE: Yes, I have gone over all the data that I believe they have in connection with the matter.

Mr. GORDON: What is your opinion as to whether or not that method which is being put into effect there will have any effect upon the ice difficulties at Massena?

Mr. HOLGATE: Speaking generally, I think it will have a satisfactory result. As to predicting exactly what will take place, I do not think any of us would go so far as to predict precisely the new conditions that will be brought into existence, but as to the general principle of the matter I certainly believe that the result will be beneficial.

Mr. GORDON: Have you looked into the question of how that will affect the natural water level on the Canadian side of the Long Sault?

Mr. HOLGATE: Yes, sir; from the data that is in existence.

Mr. GORDON: What is your opinion as to whether or not that will have a material effect upon the navigation interests by affecting the water levels on the Canadian side?

Mr. HOLGATE: Assuming that the submerged weir is created, the effect will be quite nominal.

Mr. GORDON: What do you mean by "quite nominal"?

Mr. HOLGATE: The figures which the data would lead one to expect there would be, under varying conditions of the flow of the river, from perhaps two to five inches; somewhere in that neighbourhood.

Mr. KEEFER: That is with the dam in?

Mr. HOLGATE: Yes, sir.

Mr. GORDON: You mean where?

Mr. HOLGATE: On the Canadian side.

Mr. GORDON: Do you think that that will have any deleterious effect?

Mr. HOLGATE: No, because it will have the effect of raising the water and not lowering it.

Mr. GORDON: Then, whatever effect there is will be in the direction of making better water facilities on the Canadian side for navigation purposes?

Mr. HOLGATE: That is my opinion.

Mr. GORDON: Although it is not to any very great extent?

Mr. HOLGATE: No, it is not.

Mr. GORDON: It is a matter of a few inches, as I understand it?

Mr. HOLGATE: Yes, sir.

Mr. GORDON: I think you may cross-examine, gentlemen.

Mr. FRANK H. KEEFER: Mr. Holgate, if I understand you correctly, you premise your calculation on the weir being placed in the South Sault channel. What would be the effect on the levels on the Canadian shore if that weir were not placed in and this dredging work completed?

Mr. HOLGATE: The dredging at Dodges shoal brings more water on the southern side of the river, and, therefore, less water will flow on the Canadian or northern side. The first weir being put in, the effect would be in the way of compensation for that Dodges shoal.

Mr. KEEFER: That is a compensation for this dredging?

Mr. HOLGATE: It would have that effect.

Mr. KEEFER: Without this submerged weir, and merely to allow the dredging below, the effect on the levels on the north shore would be what in inches, roughly speaking?

Mr. HOLGATE: Something small.

Mr. KEEFER: I am told about six or eight inches.

Mr. HOLGATE: I doubt if it would be that much. I do not think it would be more than a nominal effect.

Mr. KEEFER: What would you call nominal?

Mr. HOLGATE: Perhaps three inches. These things are subject to calculations, but the calculations are not always exactly in accordance with the results.

Mr. KEEFER: Would it affect currents there also on the north shore?

Mr. HOLGATE: Anything that alters the flow of the river affects its currents.

Mr. KEEFER: Do you happen to know the entrance to what is called the Farran canal?

Mr. HOLGATE: I am somewhat familiar with it.

Mr. KEEFER: Do you know it is a difficult canal now to enter on account of currents?

Mr. HOLGATE: Yes.

Mr. KEEFER: So that this dredging will accentuate that?

Mr. HOLGATE: Yes, but the proportion to volume is not very great.

Mr. KEEFER: And I suppose it would have some effect on the entrance to the Long Sault canal?

Mr. HOLGATE: Theoretically, yes. When you take water from one part of the river and put it in another it changes these conditions, but the quantity diverted is not so great as to make a very appreciable change.

Mr. KEEFER: I should think that you engineering gentlemen could tell us what that quantity is. We have had somewhat rough talk about it. Could you give it to us accurately?

Mr. HOLGATE: I have some figures.

Mr. KEEFER: I would like to have your figures as to what the quantity of water is that is diverted.

Mr. HOLGATE: Under an average flow of the river, prior to the dredging of the Dodges shoal, the gaugings indicate that there were some 50,000 cubic feet flowing. Since the dredging has been advanced the flow is about 62,000. Now, those figures are general, of course.

Mr. KEEFER: That is a difference of 12,000?

Mr. HOLGATE: Yes, sir.

Mr. KEEFER: The previous witness gave us to understand that there was a considerable effect from dredging and other structures. I suppose that would affect your figures?

Mr. HOLGATE: That is dredges standing in the channel?

Mr. KEEFER: Yes.

Mr. HOLGATE: Yes; but if you go into that question I do not think anybody could figure it out; an increase in flow of probably 18 per cent.

Mr. KEEFER: So we have a diversion of probably 18 per cent of the water, making a diversion of probably a few inches; and we have a difference in currents as a result of this work. What would be the difference as regards ice without this submerged weir being built? With the two things would there be any difference in the ice question?

Mr. HOLGATE: Well, the ice question would remain very much the way it is.

Mr. KEEFER: Now, I am instructed, then, coming back to the question of a difference in the level on the Canadian side, and taking your figures, it would mean a difference of nine inches on our side. Would you gain-say that?

Mr. HOLGATE: Yes; I do not think it could amount to so much.

Mr. KEEFER: Will you travel with me to seven inches? It might go seven inches, might it not?

Mr. HOLGATE: Those figures are guesses. Nine inches is a guess just as much as four inches.

Mr. STEWART: Do you know what the increment is at 21?

Mr. HOLGATE: I do not. I do not wish to contradict what you have been instructed. I am giving you my opinion from the general knowledge I have of the character of the stream at that place.

Mr. KEEFER: You would not undertake to contradict, you say, an engineer on the question of what the levels would be on the Canadian side as affected by this dredging without the weir?

Mr. HOLGATE: Not unless I had the opportunity of studying his data.

Mr. KEEFER: And you have no data that you can give us now so we can study yours?

Mr. HOLGATE: I think the company is in possession of all those figures, and I do not think there would be any hesitation about presenting them to you.

Mr. KEEFER: You have not given us any figures so that we could work on them?



Mr. HOLGATE: What do you want, sir?

Mr. KEEFER: Anything by which the matter can be computed.

Mr. HOLGATE: Well, that is a matter of figuring the sections of the river. There are a number of complicated things you have to go into. Those figures and those data we have, but it would be an unending matter to go into them. I am only giving you the results I have arrived at.

Mr. KEEFER: I will not attempt to follow you because I understand you to say that if we do call a man who is supposed to be expert on that question, you would not put your opinion against his on that point.

Mr. HOLGATE: I can only repeat the answer that I have given before. These matters are all matters of absolute data. If you go beyond that you are practically guessing.

Mr. KEEFER: We have heard it stated by previous witnesses that the effect of this proposed general work is to divert the ice over to the north channel? Do you concur in that?

Mr. HOLGATE: I think that some ice would be diverted over to the north channel.

Mr. KEEFER: Is the ice a matter of some question with the canal protection?

Mr. HOLGATE: It always is

Mr. KEEFER: And it is a serious matter if we have difficulty with ice?

Mr. HOLGATE: Ice in the St. Lawrence is always a difficult question.

Mr. KEEFER: And at the canals?

Mr. HOLGATE: Yes, sir.

Mr. KEEFER: At the Farran Point canal?

Mr. HOLGATE: Not during seasons of navigation.

Mr. KEEFER: I am speaking of winter?

Mr. HOLGATE: Yes; in winter ice piles up.

Mr. KEEFER: And also at the head of the Long Sault?

Mr. HOLGATE: Yes, everywhere.

Mr. KEEFER: And to increase it is not advisable?

Mr. HOLGATE: To increase it to a dangerous point, no.

Mr. KEEFER: Your testimony in this matter is, of course, from a power point of view, is it not? You are a power expert?

Mr. HOLGATE: I would not like to call myself that. It is from a general engineering standpoint.

Mr. KEEFER: But when you speak of a general effect of this as being beneficial, it is beneficial from the power point of view?

Mr. HOLGATE: Yes; from the point of continuity of service.

Mr. KEEFER: You are not putting forward that proposition from a navigation point of view?

Mr. HOLGATE: No.

Mr. KEEFER: Have you in your inspection gone down that South Sault channel?

Mr. HOLGATE: I have never had the chance to go down that South Sault channel.

Mr. KEEFER: Could you tell me what would be the difference in the natural level of the stream by virtue of the present diversion?

Mr. HOLGATE: The change in level at the intake?

Mr. KEEFER: No. What difference in level does it make in the general channel?



Mr. HOLGATE: You can hardly speak of levels through there. You can base it on the quantity of water flowing. It will lower the level all the way through.

Mr. KEEFER: Could you say approximately how much?

Mr. HOLGATE: You cannot talk about it that way at all, because the speeds are so various in different parts of the South Sault channel that the depth would vary.

Mr. KEEFER: Would it affect the draught of a boat that could go before at seven feet?

Mr. HOLGATE: Yes.

Mr. KEEFER: It would change it down to how much?

Mr. HOLGATE: It could not go.

Mr. KEEFER: Could a boat of five feet go by virtue of the diversion?

Mr. HOLGATE: I think not.

Mr. KEEFER: Would you come down to three?

Mr. HOLGATE: Well, you might run the risk.

Mr. KEEFER: There is a difference, then, of four feet?

Mr. GORDON: I do not see how you figure a difference of four feet, because nobody could ever go through there with a boat of seven feet draught.

Mr. KEEFER: Several boats have gone through there. I think that is all.

Mr. FRANCIS KING: You have made a considerable study of river conditions with regard to the development in the St. Lawrence during the last ten or twelve years particularly, have you not?

Mr. HOLGATE: Yes, sir.

Mr. KING: I think you were interested at the time in the Long Sault Development scheme?

Mr. HOLGATE: I looked into some questions at that time.

Mr. KING: I remember a pamphlet which you wrote, which was perhaps addressed to the Canadian Society of Engineers, dealing with the question of the development of power in the St. Lawrence. Do you remember that?

Mr. HOLGATE: Yes; that was in 1911, I think.

Mr. KEEFER: I remember a reference to the Ashburton Treaty in that pamphlet.

Mr. HOLGATE: Very likely.

Mr. KING: And, if I not mistaken, something was said about a possible complete comprehensive development scheme for the St. Lawrence from one end to the other.

Mr. HOLGATE: Yes; I have always been preaching that.

Mr. KING: In the light of what you said then you would not be quite so favourable as otherwise to the piecemeal development of the St. Lawrence?

Mr. HOLGATE: No. My theory with regard to the St. Lawrence has for a long time been that the whole should be treated as one large scheme.

Mr. KING: Yes; and that developments here and there by private interests and otherwise may possibly be prejudicial to some general scheme at some later day?

Mr. HOLGATE: Where they might interfere with some larger scheme I do not think they should be permitted.

Mr. KING: As an engineer you have told us of a substantial development of water through the existing channel which has just been dredged

over this shoal, a substantial diversion of water to the South Sault. That is so, is it not?

Mr. HOLGATE: Yes, sir.

Mr. KING: Having regard to that, I suppose you consider this submerged weir more or less necessary as a compensation work?

Mr. KING: No, not at all, not in connection with any larger scheme.

Mr. KING: No; I mean as a compensation work for the withdrawal which has taken place there, the dredged canal.

Mr. HOLGATE: Well, it has that effect whether intended as such or not. If built it will have the effect of compensation for the dredging in Dodges shoal.

Mr. KING: And there is a loss of water on the north side of the river?

Mr. HOLGATE: Yes.

Mr. KING: So it was an astute move on the part of people owning the plant to dredge first and then come and ask for the weir?

Mr. HOLGATE: Well, I cannot express an opinion on that.

Mr. JAMES WHITE: Mr. Holgate, I presume you heard what Mr. Groat said respecting the possible increase of horse-power at Massena of 114,000 upon the construction of these works, and I presume you also heard that the estimated cost of these works was \$350,000, which, in the last analysis meant that the work will be constructed for a cost of \$3 per horse-power.

Mr. HOLGATE: I think perhaps Mr. Groat did not mean that.

Mr. McCARTHY: He did not say it.

Mr. GROAT: Yes, I did.

Mr. McCARTHY: What is the contention, if a water-power can be developed at a small amount of money per horse-power that it should be stopped?

Mr. JAMES WHITE: No. I do not contend anything of the kind. What I wished to point out was that this was an exceedingly valuable concession.

Mr. HOLGATE: It depends upon how the concession is interpreted; what quality of water is permitted to flow.

Mr. JAMES WHITE: I will put it in this form: Would it not be an extraordinary cheap development if 114,000 horse-power could be generated at a cost of \$350,000 plus the cost of machinery in the plant?

Mr. HOLGATE: I think those figures are absurd and incorrect.

Mr. JAMES WHITE: Another view which occurred to me was that if \$350,000 would result in the manufacture of seven million pounds of aluminum per annum, with a profit of one cent per pound, it would extinguish the cost in five years, and a profit of five cents per pound would extinguish the cost in one year.

Mr. HOLGATE: It is too deep for me.

Mr. F. E. MEREDITH: Mr. Holgate, would you mind telling me when you were first consulted in regard to this particular scheme and the effect of it?

Mr. HOLGATE: About a month ago.

Mr. MEREDITH: Well, it is a pretty serious matter to give an opinion on, is it not? It is a pretty big proposition, and the result may or may not be very serious?

Mr. HOLGATE: Well, it is a serious matter, but the figures and the data have given me confidence in what I say.

Mr. MEREDITH: I notice in your opinion that throughout you have stated that you base your opinion on data that had been given you?

Mr. HOLGATE: Oh, yes.

Mr. MEREDITH: Who gave you the data?

Mr. HOLGATE: Some is from the United States Survey, some from the company's own records, and our own Canadian records, so far as I could get them.

Mr. MEREDITH: You are a consulting engineer, and having only been consulted about a month ago you would assume that the data given you by this company, the petitioner, was naturally correct?

Mr. HOLGATE: Yes; it agrees very well with the United States records.

Mr. MEREDITH: Did you compare them?

Mr. HOLGATE: Oh, yes.

Mr. MEREDITH: Have you the data that they gave you?

Mr. HOLGATE: I have some of them here.

Mr. MEREDITH: How often did you go up there to visit this plant for the purpose of giving evidence in this particular case?

Mr. HOLGATE: I did not go at all. I was familiar with it before.

Mr. KEEFER: Can you furnish the data for the use of our engineers also?

Mr. MEREDITH: Yes; I would like you to furnish the data on which you worked.

Mr. HOLGATE: I think Mr. McCarthy has it.

Mr. MCCARTHY: I would like to know all about it myself before I give my answer.

Mr. MEREDITH: There certainly could be no objection to putting the data which you handed a consulting engineer of Mr. Holgate's standing before this court so it can be looked into?

Mr. POWELL: That would be admissible by every rule of evidence.

Mr. MEREDITH: I would like to have an answer as to that.

Mr. MCCARTHY: We will take it under consideration and answer it in the morning.

Mr. MEREDITH: Then, I would like to have the examination of Mr. Holgate put over until to-morrow morning. If my learned friends have to consider whether they are going to put before this Commission the very data upon which this gentleman based, to some extent, his opinion he gave this Commission, it seems to me that the time has come when that data should be put before us to let us see what it consists of.

Mr. HOLGATE: I have a small portion of them.

Mr. MEREDITH: Where is the rest?

Mr. HOLGATE: Scattered about.

Mr. GORDON: I do not think there is any objection at all to giving these data.

Mr. MCCARTHY: My learned friend hardly thinks so, but he has been in court a good many times, and he has never given anything unless he knows what he was giving. I do not know what is in the papers that Mr. Holgate has in his possession, but I want to know what is in them first.

(The Commission thereupon, at 5.15 o'clock, p.m., adjourned until 10 o'clock a.m., Friday, August 30, 1918.)



FRIDAY, August 30, 1918.

HENRY HOLGATE, Consulting Engineer, Montreal, then went into the box and produced the data referred to at yesterday's sittings.

MR. GORDON: The request was that counsel be allowed to see this data. Does the Commission want it filed?

MR. KEEFER: Our engineers want to see it.

MR. GORDON: Your engineers can have it, but please don't put all this thing on the record.

The witness retired.

TESTIMONY OF J. O. TULLOCH.

J. C. TULLOCH, Chairman of the Chamber of Commerce, Ogdensburg, N.Y., having been duly sworn, testified as follows:

MR. GEORGE B. GORDON: Where do you live?

MR. TULLOCH: In Ogdensburg.

MR. GORDON: You are an Attorney-at-law by profession?

MR. TULLOCH: Yes, sir.

MR. GORDON: You are, I believe, President of the Chamber of Commerce of Ogdensburg.

MR. TULLOCH: I am.

MR. GORDON: How long have you lived on the St. Lawrence?

MR. TULLOCH: All my lifetime.

MR. GORDON: Where were you born?

MR. TULLOCH: On Croil Island, just immediately above the Long Sault island.

MR. GORDON: Have you been acquainted with the Long Sault channel all your life?

MR. TULLOCH: As a layman, all my lifetime.

MR. GORDON: Have you been acquainted with the navigation of the St. Lawrence river?

MR. TULLOCH: I have.

MR. GORDON: Are you acquainted with the canal.

MR. TULLOCH: I am.

MR. GORDON: How far back do you recollect the condition of the channel of the St. Lawrence river?

MR. TULLOCH: Over thirty-five years.

MR. GORDON: I wish you to state to the Commission, as briefly as you can, what the condition of these channels has been, what the commerce has been, and what kind of commerce it was.

MR. TULLOCH: I lived on Croil Island, and had an opportunity to observe all of the steamers on both sides of the river, in both channels. I knew the names of the captains of the boats that went the South Sault. About twenty-five years ago the *Cresco* navigated the south channel, then in turn the *Massena* and the *Algona*. I knew Captain Fox and Captain Willard Cline and Captain John Cline. The *Algona* and *Massena* made weekly trips to Fort Covington, and used the Cornwall canal by way of return. After the railroad was built from Massena these trips were discontinued. The *Massena* burned about twenty years ago, the *Cresco* is out of existence, and the *Algona* is in the bottom of the river at Richards'



Landing now. The South Sault channel was also used during my earlier days for rafting, by Calvin & Company and Metzler and others of Kingston and Collins' Bay. These rafts were brought in at the head of Croil Island and in drams were taken down by men through the South Sault channel to Cornwall. These rafts were broken up into parts which could be handled by oars, and the islanders took the drams down the South Sault channel. I have gone down numerous times on these drams. That has been discontinued for over ten years.

Mr. GORDON: Why?

Mr. TULLOCH: The lumber is sent now by railway or by boat. The last dram I knew of, about four or five years ago, went to the Cornwall canal.

Mr. MAGRATH: Do you mean to say that square timber has in recent years been moved by water in that way?

Mr. TULLOCH: Not in recent years. I am speaking of square and other timber that came by raft down the St. Lawrence in former years. Most of the timber was then moved by rafts. That has all been discontinued for over ten years, and the navigation, so far as the smaller boats are concerned, has been discontinued for about ten years. The trend of navigation has been to deeper water and larger boats, and there are very few boats on the St. Lawrence river, if there are any, that are capable of going on the South Sault channel at the present time.

Mr. GORDON: Did any boats ever go upstream on the south?

Mr. TULLOCH: One, the *Omena*, belonging to Mr. Wainwright.

Mr. GORDON: When was that?

Mr. TULLOCH: About eleven or twelve years ago, and the experiment was never repeated.

Mr. GORDON: That is the only boat you know of that went upstream through the South Sault.

Mr. TULLOCH: Yes, sir.

Mr. GORDON: How much did the three boats draw, that you have named, which up to eight or ten years ago occasionally used the South Sault?

Mr. TULLOCH: About five and a half feet.

Mr. GORDON: How long ago is it that the last one of these boats made the trip, to your knowledge?

Mr. TULLOCH: I cannot exactly say; it is seven or eight years ago, I guess.

Mr. GORDON: How frequently, when these boats did use the South Sault, did they run?

Mr. TULLOCH: Once a week; and after the regular trip to Fort Covington was discontinued, for a time they ran excursions, on Saturday down to Cornwall, and up the Cornwall canal.

Mr. GORDON: Coming to the North Sault, what is the character of the traffic that uses the North Sault?

Mr. TULLOCH: Just the passenger boats of the Canada Steamship Line use the North Sault.

Mr. GORDON: In what direction?

Mr. TULLOCH: Going downstream.

Mr. GORDON: Where does the ordinary commercial traffic of the St. Lawrence go?

Mr. TULLOCH: To the north of Croil and into the Cornwall canal.

Mr. GORDON: Is there much traffic on the canal?

Mr. TULLOCH: Yes, sir.

Mr. GORDON: What do you say has been the tendency in the building of boats for commercial purposes in recent years?

Mr. TULLOCH: The boats now have greater draught and larger carrying capacity.

Mr. GORDON: What is the ordinary depth of water that a boat has to have to-day in the St. Lawrence river to be operated profitably for commercial purposes?

Mr. TULLOCH: About fourteen and a half feet.

Mr. GORDON: Could such boats use either the North Sault or the South Sault?

Mr. TULLOCH: It would be impossible in either case.

Mr. GORDON: Do you know anything about motor boats in the South Sault?

Mr. TULLOCH: Yes, sir; I have gone down the South Sault in my own motor boat, but it is only as a stunt. That is about the way all these motor boats go, and it was the manner in which the little skiffs went frequently down the South Sault channel to Mr. James Richards'. I first went down the South Sault in a skiff with Mr. James Richards.

Mr. GORDON: Was there ever, or is there now, any real navigation for motor boats through the South Sault?

Mr. TULLOCH: None, only as an experiment.

Mr. FRANCIS KING: You did not mention the steamer *Chieftain*.

Mr. TULLOCH: The *Chieftain* went down the South Sault, but she has not gone down the South Sault since the discontinuance of rafting. The *Chieftain* and the *Petrel* went down. The *Chieftain* is in existence.

Mr. KING: You did not mention her. What was her size?

Mr. TULLOCH: About 180 feet long, a side-wheeler, a rafting boat. I think it is about twenty years since the *Chieftain* went down.

Mr. KING: You suggest that the rafting business was discontinued about eleven years ago?

Mr. TULLOCH: Yes, sir.

Mr. KING: You say that the last raft went down about four years ago.

Mr. TULLOCH: Not the South Sault.

Mr. KING: You don't mean rafting was discontinued ten years ago?

Mr. TULLOCH: I meant the rafting was discontinued in the South Sault ten years ago or more.

Mr. KING: The last raft went down the Cornwall canal?

Mr. TULLOCH: Yes, sir.

Mr. KING: Why.

Mr. TULLOCH: For the reason that the raft itself was drawing at the time over 5 feet of water, and it was impossible to navigate the South Sault channel, and for the further reason that the previous raft that had gone down broke up in the South Sault.

Mr. KING: Navigation in the South Sault by rafts, if not by other boats, terminated after the building of the power canal at Massena?

Mr. TULLOCH: It terminated when there was no more rafting to be done?

Mr. KING: Answer my question, please?

Mr. TULLOCH: I think the bulk of the rafting was discontinued before the power canal was in existence.

Mr. KING: Do you know when the power canal was built?

Mr. TULLOCH: About fifteen or sixteen years ago.

Mr. KING: And the bulk of the rafting had been discontinued before that?

Mr. TULLOCH: Prior to that.

Mr. KING: And yet you told us that the rafting was discontinued ten years ago in the south channel and the last raft went down four years ago?

Mr. TULLOCH: In the north channel, yes.

Mr. KING: Is it not a fact that navigation in the South Sault channel was affected by the building of the power canal?

Mr. TULLOCH: I do not know.

Mr. KING: You cannot give an opinion?

Mr. TULLOCH: I cannot state that, not being an engineer. I do know that the South Sault channel is dangerous and narrow.

Mr. TAWNEY: When was the railroad built into Massena?

Mr. TULLOCH: It is more than ten years ago.

Mr. TAWNEY: Prior to that time, did Massena have any other facilities of receiving or transporting freight than by boat along the South Sault channel?

Mr. TULLOCH: The boats were running from Ogdensburg to what is known as Richards' or Dodges' Landing. That was the landing for Massena in these days. They made a weekly trip to Fort Covington with freight, but the freight was carried by these boats, namely, the *Massena* and the *Algona*.

Mr. TAWNEY: What was the tonnage that went through?

Mr. TULLOCH: I am unable to state. They were short of course, the *Algona* was about 80 feet in length.

Mr. TAWNEY: And you say that has ceased during the last ten years?

Mr. TULLOCH: Yes, sir.

Mr. TAWNEY: The transportation by rail to Massena and the stopping of transportation through the south channel were almost simultaneous?

Mr. TULLOCH: Nearly so.

The witness was not further examined.

#### TESTIMONY OF CAPTAIN W. W. CLINE.

CAPT. W. W. CLINE, having been duly sworn, testified as follows:

Mr. GEORGE B. GORDON: Where do you live?

Mr. CLINE: Massena village.

Mr. GORDON: How long have you lived in Massena?

Mr. CLINE: About nineteen years in the village proper. I was born at the foot of Long Sault island.

Mr. GORDON: How long did you live at the foot of Long Sault island?

Mr. CLINE: Thirty years.

Mr. GORDON: Were you a pilot for the St. Lawrence river?

Mr. CLINE: Yes, sir.

Mr. GORDON: How long have you been a St. Lawrence River pilot?

Mr. CLINE: Eight years ago I took out a steamboat license. I had a motor-boat license before that.

Mr. GORDON: Have you been acquainted all these years with the channels and the traffic on the South and North Sault channels?

Mr. CLINE: Yes, sir.

Mr. GORDON: Have you ever had occasion to navigate the South Sault?

Mr. CLINE: Yes, sir; I navigated there for three years with a steamboat.

Mr. GORDON: What steamboat?

Mr. CLINE: The *Algona*.

Mr. GORDON: Where is the *Algona* now?

Mr. CLINE: At Richard's Landing, Massena.

Mr. GORDON: Is she tied up there or sunk?

Mr. CLINE: She is sunk.

Mr. GORDON: How long has she been lying in the river?

Mr. CLINE: Since March of this year.

Mr. GORDON: What draught of water had the *Algona*?

Mr. CLINE: Five feet.

Mr. GORDON: When did you navigate the South channel with the *Algona*?

Mr. CLINE: During the excursion season we made Saturday trips; that was practically all.

Mr. GORDON: And the Saturday trip was what kind of a trip?

Mr. CLINE: We came to Cornwall in the morning and took an excursion from Cornwall up to the head of Long Sault island and down the South Sault.

Mr. GORDON: How did you go up?

Mr. CLINE: By the Cornwall canal.

Mr. GORDON: What has been the character of the traffic on the South Sault during your lifetime?

Mr. CLINE: Freight and passengers, mostly.

Mr. GORDON: During what years, and how; what kind of traffic was it; how did it begin, and how did it develop?

Mr. CLINE: The traffic was good years ago. Of late years there has not been any. I quit running because there was nothing to do.

Mr. GORDON: That is the reason the *Algona* ceased her trips.

Mr. CLINE: Yes, sir

Mr. GORDON: How many years ago?

Mr. CLINE: Six years ago was the last trip I made. —

Mr. GORDON: And the reason you stopped was because there was nothing for you to do.

Mr. CLINE: Yes.

Mr. GORDON: And before that there were weekly excursions?

Mr. CLINE: Yes.

Mr. GORDON: How about the rafting in the South channel?

Mr. CLINE: There has been no rafting for the last ten years.

Mr. GORDON: Why was that?

Mr. CLINE: There was not any timber to go down, I guess.

Mr. GORDON: Is there still much traffic on the St. Lawrence river?

Mr. CLINE: There is for the heavy-draught boats.

Mr. GORDON: Is there any traffic for the light-draught boats?

Mr. CLINE: Very little.

Mr. GORDON: Is there any occasion for anybody to navigate the South Sault?

Mr. CLINE: Not for any business.



Mr. GORDON: There is no business.

Mr. CLINE: No, sir.

Mr. GORDON: Do you know about these motor boats; do you know whether any of them run the South Sault occasionally.

Mr. CLINE: Very seldom.

Mr. GORDON: What do you mean by "very seldom"?

Mr. CLINE: There might be two or three, or five or six, in a season.

Mr. GORDON: Do they go for business or amusement?

Mr. CLINE: Just for amusement.

Mr. GORDON: There is no traffic at all for either of the Saults, I believe?

Mr. CLINE: No, sir.

Mr. GORDON: And the real traffic of the St. Lawrence river is carried through the Cornwall canal, up and down?

Mr. CLINE: Yes, sir.

Hon. HUGH GUTHRIE: It was six years ago when you made your last trip?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: And that was on the *Algona*?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: Drawing five feet of water?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: That would be after the Massena canal had been built?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: It was quite possible then to make the trip?

Mr. CLINE: Yes.

Mr. GUTHRIE: Did you tell us that the business fell off and there was nothing left to do?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: And so you discontinued that work?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: Do you know the other boats that have been mentioned by the last witness?

Mr. CLINE: Yes, sir.

Mr. GUTHRIE: They discontinued for the same reason, namely, that there was no traffic?

Mr. CLINE: I presume so.

Mr. GUTHRIE: I am told that it was just twenty years ago, 1898, that the railway was built to Massena, is that correct?

Mr. CLINE: I think so.

Mr. GUTHRIE: The last witness said it was ten years, and we understood that he was wrong.

Mr. CLINE: I would not be positive as to the year, but I know it is quite a while ago that the railway came into Massena.

Mr. GUTHRIE: It is more than ten years?

Mr. CLINE: Yes.

Mr. GUTHRIE: I am told that it is twenty years ago, is that right?

Mr. CLINE: I would think so.

Mr. GUTHRIE: After the railway was built you carried on business in the *Algona*?

Mr. CLINE: Yes, excursion business, but our freight business did not pay us for the coal we burned going down the Sault.

Mr. GUTHRIE: Your reason for discontinuing was that the freight business fell off, and the passenger business fell off, and so you could not make it pay?

Mr. CLINE: That and the low water with it.

Mr. GUTHRIE: What caused the low water?

Mr. CLINE: I do not know.

Mr. GUTHRIE: Did you notice the effect of the Massena canal in making low water?

Mr. CLINE: We had low water above the Massena canal on the shoals.

Mr. GORDON: You mean the Dodges shoal?

Mr. CLINE: Yes.

Mr. GUTHRIE: Dodges shoal was the testing point?

Mr. CLINE: We could go through all right if we could get over the shoal.

Mr. GUTHRIE: Yours being a five-foot draught boat, did you ever stick on a shoal?

Mr. CLINE: No.

Mr. TAWNEY: You say your last trip was six years ago in the *Algona*?

Mr. CLINE: Yes.

Mr. TAWNEY: How frequently did you make trips prior to that time?

Mr. CLINE: On Saturdays. We ran local excursions.

Mr. TAWNEY: How long did that continue prior to that time?

Mr. CLINE: Two years.

Mr. TAWNEY: That was merely excursion business?

Mr. CLINE: Yes.

Mr. TAWNEY: And you say the freight was not sufficient to pay for the coal?

Mr. CLINE: Yes.

Mr. POWELL: Did you notice any difference in the navigation of the river below the present wing dam after the canal was opened?

Mr. CLINE: Very little.

Mr. POWELL: It was no more difficult to navigate than it was before?

Mr. CLINE: I do not know that it was.

Mr. POWELL: There was quite a diminution in the quantity of water going downstream, was there not?

Mr. CLINE: I cannot say as to that.

Mr. POWELL: What is your opinion about it?

Mr. CLINE: I do not think that it made a big lot of difference.

Mr. POWELL: Not much difference?

Mr. CLINE: No, sir.

Mr. POWELL: Do you mean that there was no substantial difference?

Mr. CLINE: No material difference.

Mr. POWELL: It appears in evidence that they diverted about one-half of the water of the South Sault channel down through the canal. Now if one-half was diverted it must necessarily have the effect of lessening the quantity of water in the river.

Mr. CLINE: That is true.

Mr. POWELL: And it would interfere with navigation, would it not?

Mr. CLINE: There was not that difference when I was navigating there.

Mr. MCCARTHY: I understood the witness to say that anything that could get over Dodges shoal could go down the channel. So long as he

could get over Dodges shoal he could go the rest of the way without finding any difference, after the canal was built.

Mr. POWELL: I am somewhat of a practical marine man myself; I spent four years at sea. I know something about this thing. You did not notice any greater difficulty in navigating the lower stretch of the river from the mouth of the canal to the river below, after the canal was built?

Mr. CLINE: It might have been a little lower after the canal was built. I was not navigating there as a business before the canal was built. If I could clear the shoal I never had any trouble to get down the rest of the way.

Mr. POWELL: What was the difficulty you experienced in the navigation of the river below the intake of the canal?

Mr. CLINE: Practically low water all the way, the same as it was above.

Mr. POWELL: Did the rapids render navigation dangerous?

Mr. CLINE: Not for me.

Mr. POWELL: You think the navigation on that lower stretch of the river, from the wing dam to the section of the river below is about as good as ever it was?

Mr. CLINE: No, it isn't as good as ever it was, because the water is lower all through. We used to come over the shoal and not touch anything, but we could not now.

Mr. POWELL: What is the cause of that; is it the construction of the wing dam or the piling up of stuff on the shoal?

Mr. CLINE: That would be the piling up on the shoal; that is the only solution I can give of it.

Mr. TAWNEY: Has the Cornwall canal or its operation anything to do with the lowering of the water on these shoals?

Mr. CLINE: I should say not.

Mr. TAWNEY: Do you know the quantity of water that is taken down the canal?

Mr. CLINE: I do not.

Mr. POWELL: The Cornwall canal is a series of locks.

Mr. CLINE: I think in places in the canal the increased lockage takes more water.

Mr. POWELL: Probably, yes.

Mr. GORDON: I wish to ask the witness about this diminution; have you noticed the diminution of the water in the South Sault all your life?

Mr. CLINE: Ever since I have been a young man I noticed that the water was getting lower every year.

Mr. GORDON: And that diminution began long before there was any canal at Massena?

Mr. CLINE: Yes, sir.

Mr. GARDNER: These were excursion trips for mere pleasure?

Mr. CLINE: Yes, sir.

Mr. GARDNER: You went through the South Sault channel just because it would be a venture, and for amusement?

Mr. CLINE: Yes. I was doing it for money; the others were doing it for amusement.

The witness was not further examined.

## TESTIMONY OF CAPTAIN WILLIAM HAINES.

Captain WILLIAM HAINES having been duly sworn, testified as follows:

Mr. GEORGE B. GORDON: Where do you live?

Mr. HAINES: In Cornwall.

Mr. GORDON: How long have you lived in Cornwall?

Mr. HAINES: I may say all my lifetime.

Mr. GORDON: All your lifetime?

Mr. HAINES: Yes, about fifty years.

Mr. GORDON: What is your business?

Mr. HAINES: Steamboat piloting.

Mr. GORDON: How long have you been a pilot on the St. Lawrence?

Mr. HAINES: Twenty years.

Mr. GORDON: Were you familiar with the channels in the river around there before you were a pilot?

Mr. HAINES: I was, because I had to learn to be a pilot.

Mr. GORDON: You are familiar through all these years with the channels and the water in the South Sault and the North Sault?

Mr. HAINES: As to the South Sault there is at times very little there.

Mr. GORDON: Tell the Commission what your experience has been and what your knowledge is of the navigation of the South Sault.

Mr. HAINES: I have been through there and I have gone down with boats, such as excursions and yachts. I never was in any boat that had a trade through there.

Mr. GORDON: How frequently would that be?

Mr. HAINES: Three or four trips in the summer season.

Mr. GORDON: Has there ever been any traffic up the South Sault?

Mr. HAINES: I never heard of any.

Mr. GORDON: Has there ever been any traffic up the North Sault?

Mr. HAINES: Never.

Mr. GORDON: Would the traffic up river use the canal?

Mr. HAINES: Yes.

Mr. GORDON: What is the traffic downstream through both Saults?

Mr. HAINES: I do not think there is any traffic at all on the South Sault now. On the North Sault, there is only a boat a day for two months, such as the Canada Steamship Company's passenger boats.

Mr. GORDON: That is excursion business to view the scenic beauties of the place?

Mr. HAINES: That is all. There is no freight whatever.

Mr. GORDON: Is there any substantial number of boats on the St. Lawrence that draw sufficiently little water to navigate either of the Saults?

Mr. HAINES: At present there are not very many. That class of boats is going out of date.

Mr. GORDON: What is the tendency in boat-building; is it towards larger draught?

Mr. HAINES: Certainly.

Mr. GORDON: Is it possible in your judgment, captain, for any boat of sufficient size to be profitable as a commercial operation, which would navigate that part of the St. Lawrence otherwise than by using the canal?

Mr. HAINES: No.

Mr. TAWNEY: You have lived for twenty years there; what is the extent of the freight traffic through the Cornwall canal?







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South Sault Channel looking downstream.

Mr. HAINES: Pretty heavy.

Mr. TAWNEY: Can you say approximately the number of boats that go through there during the summer season?

Mr. HAINES: I cannot say that, but there are a great many. When I was in the canal, coming down here, I counted sixteen boats.

Mr. TAWNEY: You say you never have seen any freight boats going up or going down the Sault?

Mr. HAINES: Oh, no; we call them passenger boats. There may be a little bit of freight on them, but they are straight passenger boats.

Mr. TAWNEY: And their business is passenger business?

Mr. HAINES: Certainly.

Mr. TAWNEY: That is the only business that goes up or down there now?

Mr. HAINES: Yes.

Mr. TAWNEY: What is the draught of these boats?

Mr. HAINES: About 5½ to 6 feet. On the North Sault it was quite unsafe at any time to run it over 7 feet.

Mr. TAWNEY: There is no traffic on the South Sault at all?

Mr. HAINES: No.

Mr. POWELL: In your experience, there was no local traffic along the South Sault channel?

Mr. HAINES: No, it was all through traffic, such as the *Algona* going to Fort Covington.

Mr. POWELL: That traffic would all go down between Croil island and Long Sault island, and take advantage of the canal, and get down the river that way?

Mr. HAINES: Down by the canal; all the heavy boats do that.

Mr. KING: How long ago did you say this traffic discontinued in the South Sault?

Mr. HAINES: While I would not say right to a year or two, it was between eight and ten years.

Mr. KING: And you suggest that boat-building now is more in the direction of larger and better boats?

Mr. HAINES: Certainly.

Mr. KING: Do you make that remark without any exception?

Mr. HAINES: Certainly.

Mr. KING: How long ago is it since the *Rapids King*, the *Rapids Prince*, and the *Rapids Queen* were built?

Mr. HAINES: The *Queen* was built about twenty-five years ago, the *King* twelve or thirteen year ago, and the *Prince*, eight or ten years ago.

Mr. KING: And you don't like navigating the South Sault at present?

Mr. HAINES: No, sir.

Mr. KING: You would not mind navigating it if it were provided with locks?

Mr. HAINES: I do not know.

Mr. KING: Why would you object?

Mr. HAINES: In fact I never cared very much for it; I would sooner go the North Sault at any time, because we had more water.

Mr. KING: I suppose you will admit that if it were provided as a proper canal with locks, you would have no objection to navigate it?

Mr. HAINES: Certainly, if there was a canal there it would not make any difference to me which canal I took.

The witness was not further examined.

TESTIMONY OF C. D. TRACEY.

C. D. TRACEY, Massena, having been duly sworn, testified as follows:

Mr. GEORGE B. GORDON: Where do you live?

Mr. TRACEY: In the town of Massena.

Mr. GORDON: How long have you been there?

Mr. TRACEY: All my life.

Mr. GORDON: What is your business?

Mr. TRACEY: Farmer.

Mr. GORDON: What do you mean by saying that you live in the town of Massena, how near do you live to the St. Lawrence river?

Mr. TRACEY: Right on the bank of the St. Lawrence river.

Mr. GORDON: Where is that with reference to the South Sault?

Mr. TRACEY: About two miles west of the rapids in the South Sault, and about two and a half miles east of the intake to the power canal.

Mr. GORDON: Are you at the place where the ferries operate to cross to the island?

Mr. TRACEY: Yes, sir.

Mr. GORDON: Is that your ferry?

Mr. TRACEY: We do some ferrying there.

Mr. GORDON: What is the location of your house with reference to viewing the South Sault?

Mr. TRACEY: We cannot see the Sault from our house. We can see the river, but at our place there are practically no rapids.

Mr. GORDON: You are between the power house below the rapids and the South Sault?

Mr. TRACEY: Yes.

Mr. GORDON: Have you been familiar with the traffic that has gone through the South Sault?

Mr. TRACEY: Yes, in a measure.

Mr. GORDON: Have you been in a position to observe the extent of the traffic?

Mr. TRACEY: Yes, sir.

Mr. GORDON: For how many years?

Mr. TRACEY: I have been there for twenty-two years.

Mr. GORDON: What has been the extent of the traffic during that time?

Mr. TRACEY: A number of years ago, say twenty years ago, there was quite a good deal of traffic on the river.

Mr. GORDON: What do you mean by "quite a good deal"?

Mr. TRACEY: At that time, twenty or twenty-five years ago, there were two boats running between Ogdensburg and Massena, and twice a week they would make the trips through to Fort Covington. That would be down by our place.

Mr. GORDON: They would touch twice a week?

Mr. TRACEY: Yes, and occasionally they stopped at our place. We had a dock there and they used to leave freight there occasionally.

Mr. GORDON: Then it was taken over to the town of Massena?



Mr. TRACEY: The freight that went to the town of Massena would be unloaded either at Richards Landing or Dodges Landing. Richards Landing is above the Talcott shoal.

Mr. GORDON: Where is Dodges Landing?

Mr. TRACEY: Just below the shoal.

Mr. GORDON: Between the shoal and the mouth of the present canal?

Mr. TRACEY: Yes.

Mr. GORDON: That is the way Massena got its freight?

Mr. TRACEY: Yes, sir.

Mr. GORDON: What happened to these boats?

Mr. TRACEY: The *Massena* burned a number of years ago and the *Algonia* is in the river at Richards Landing at present.

Mr. GORDON: What became of the traffic.

Mr. TRACEY: As the railroad was built into Massena and the Grand Trunk built from Montreal through to Massena, and then the New York and Ottawa came through, they naturally got the freight that way instead of boating it.

Mr. GORDON: What has been the traffic through the South Sault of recent years.

Mr. TRACEY: Very little.

Mr. GORDON: What do you men by very little, describe to the Commission what it is?

Mr. TRACEY: I have not known of a boat going down in the last five or six years, except there might have been an occasional tug of the Company.

Mr. GORDON: You mean a tug of the Aluminum Company?

Mr. TRACEY: Yes, something that was used in their work.

Mr. GORDON: How about motor boats?

Mr. TRACEY: Very few motor boats, occasionally one goes by.

Mr. GORDON: How many do you think go by there in the course of the summer season?

Mr. TRACEY: Very few. I have seen only two going down this season.

Mr. GORDON: Is there any local traffic for boats to handle through the South Sault?

Mr. TRACEY: No, sir.

Mr. GUTHRIE: I have no questions to ask.

Mr. KING: It has been suggested that the traffic carried on the *Algonia* was largely excursion traffic; is that right?

Mr. TRACEY: For the latter part of the running of the boat, I think so. But years ago they used to carry quite a good deal of freight.

Mr. KING: It was not entirely excursion?

Mr. TRACEY: The latter part of her business the boat did practically all excursion work.

Mr. KING: The railway would have no effect on that?

Mr. TRACEY: No, sir.

The witness was not further examined.

#### TESTIMONY OF CAPT. GEORGE P. FLEMING.

CAPT. GEORGE P. FLEMING, being duly sworn, testified as follows:—

Mr. GEORGE B. GORDON: Where do you live?

Mr. FLEMING: Ogdensburg.

Mr. GORDON: What is your business?

Mr. FLEMING: Piloting.

Mr. GORDON: On the St. Lawrence river?

Mr. FLEMING: Yes.

Mr. GORDON: How long have you been a pilot on the St. Lawrence river?

Mr. FLEMING: Twenty-eight years.

Mr. GORDON: How long have you lived in Ogdensburg?

Mr. FLEMING: Forty-eight years.

Mr. GORDON: You are familiar with the channels and the traffic on the river?

Mr. FLEMING: Yes, sir.

Mr. GORDON: What kind of traffic is there now on the South Sault?

Mr. FLEMING: There is not any of any-kind that I know of.

Mr. GORDON: Would you know about the traffic if there was any?

Mr. FLEMING: Yes, sir.

Mr. GORDON: Did you ever go through the South Sault?

Mr. FLEMING: Yes, sir.

Mr. GORDON: When?

Mr. FLEMING: Last year.

Mr. GORDON: What in?

Mr. FLEMING: In a motor boat.

Mr. GORDON: What was the last time before that you went through?

Mr. FLEMING: Every season I go down in a motor boat.

Mr. GORDON: That is, somebody who wants to go through hires you as a pilot to take them through the South Sault?

Mr. FLEMING: Yes.

Mr. GORDON: What do they go for?

Mr. FLEMING: Just for pleasure.

Mr. GORDON: How frequently in the season is there a motor boat that takes a pilot and goes down the South Sault?

Mr. FLEMING: Very seldom.

Mr. GORDON: Can you give us any idea as to the number?

Mr. FLEMING: There may be five or six, or perhaps only three or four, in a season.

Mr. GORDON: Do you know what the traffic used to be in the South Sault?

Mr. FLEMING: I heard of the *Algona* and those boats going down, but I never went there myself on them.

Mr. GORDON: You never went through on a steamer yourself?

Mr. FLEMING: No.

Mr. GORDON: Did you ever hear of any traffic except this excursion business on the *Algona*?

Mr. FLEMING: No sir, excepting that.

Mr. GORDON: What about the rafting business?

Mr. FLEMING: I never went down on them myself, but I heard.

Mr. GORDON: When did the rafting business disappear from the St. Lawrence?

Mr. FLEMING: The last raft I saw coming down was five or six years ago.

Mr. GORDON: How is the lumber that comes down the St. Lawrence carried now?

Mr. FLEMING: There is no lumber that comes down on the river now, that I know of.

Mr. KING: There are three channels to get down the river: the Cornwall canal, the South Sault, and the North Sault?

Mr. FLEMING: Yes, sir.

Mr. KING: Tell me which is the easiest and safest?

Mr. FLEMING: The Cornwall canal.

Mr. KING: And for boats, such as you have mentioned, which comes next?

Mr. FLEMING: The North Sault.

Mr. KING: Would any of these motor boats you have mentioned go down the North Sault?

Mr. FLEMING: Yes, sir.

Mr. KING: Then why do they go down the South Sault?

Mr. FLEMING: Some of them would rather take it because it would not be so rough and so dangerous?

Mr. KING: If they did not have the canal to navigate, they would take the South Sault in preference to the North Sault?

Mr. FLEMING: Some of them would.

Mr. KING: The more timid ones?

Mr. FLEMING: Yes.

Mr. McCARTHY: Have you yourself run the North Sault with a motor boat?

Mr. FLEMING: Yes, sir.

Mr. POWELL: I suppose if you were looking for the most desirable route, outside the canal, would it not be to go through the canal and use the stream below?

Mr. FLEMING: I do not get you.

Mr. POWELL: Would it not be the best, if you had occasion to use the southern route, to come down the river, then take the locks down to the power-house, take the canal in there, take the canal to the river below—you would have a perfect water route, would you not?

Mr. FLEMING: I do not really get what you mean—going through the Massena canal and what?

Mr. POWELL: Yes, and down the Grasse river. That is about the best water route you could get?

Mr. FLEMING: I am not very familiar with it, and I do not know.

The witness was not further examined.

#### TESTIMONY OF ARNOLD SMITH.

ARNOLD L. SMITH, Cornwall, being duly sworn, testified as follows:—

Mr. GEORGE B. GORDON: Where do you live?

Mr. SMITH: In Cornwall, Ont.

Mr. GORDON: How long have you been there?

Mr. SMITH: All my life.

Mr. GORDON: What is your business?

Mr. SMITH: Vice-president and general manager of the Montreal and Cornwall Navigation Company. I am also the proprietor of Smith Agencies, general forwarders.

Mr. GORDON: How long has your business been connected with the St. Lawrence river?

Mr. SMITH: Our company has been operating there since 1896. I have not been in charge that long.

Mr. GORDON: What is the nature of the navigation conducted by your company?

Mr. SMITH: Passengers and freight between Kingston and Montreal.

Mr. GORDON: What boats have you?

Mr. SMITH: At present, the steamer *Britannic*; in former years we had the *Filgate*, the *Emerald*, the *City of Toronto*, and numerous others.

Mr. GORDON: You are familiar with the North Sault, the South Sault, and the Cornwall canal?

Mr. SMITH: Yes.

Mr. GORDON: Do you know what traffic there is or has been through the South Sault?

Mr. SMITH: We used to operate through the South Sault occasionally for excursions.

Mr. GORDON: What boats?

Mr. SMITH: The *Emerald* and the *Filgate*.

Mr. GORDON: How frequently did you take excursions through the South Sault?

Mr. SMITH: Three or four times a year.

Mr. GORDON: What was the draught of those boats?

Mr. SMITH: Five feet.

Mr. GORDON: Has there ever been any other traffic through the South Sault to your knowledge?

Mr. SMITH: Back to the time I was connected with the company in 1905, the only boats I knew were the *Algona*, the *Rafter Chieftain*, occasionally, and some yachts and motor boats, and our own boats for excursions.

Mr. GORDON: What was the character of that business?

Mr. SMITH: Altogether pleasure or excursion business.

Mr. GORDON: What has been the tendency of recent years?

Mr. SMITH: Well, it has dropped away. I think the last regular boat going through there was in 1912, the *Algona*.

Mr. GORDON: What was the reason for business stopping?

Mr. SMITH: The water was poor for one thing, and there was not much business.

Mr. GORDON: It did not pay?

Mr. SMITH: I venture to say that since the time there was a regular route there, the *Algona* and *Massena*, that was before my time, since then I venture to say I don't think there has been a ton of freight carried through the South Sault.

Mr. GORDON: How does the freight on the St. Lawrence go?

Mr. SMITH: Through the Cornwall canal.

Mr. GORDON: What is the tendency as to the size of boats for practical commercial operation?

Mr. SMITH: The bigger, the better.

Mr. GORDON: Can these five-foot boats compete with the fifteen-foot boats?



Mr. SMITH: Under certain conditions the small-draught boats will not pay for the fuel they burn.

The witness was not further examined.

TESTIMONY OF E. C. HUBBARD.

E. C. HUBBARD, Massena, being duly sworn, testified as follows:—

Mr. GEORGE B. GORDON: What is your business?

Mr. HUBBARD: Bus lines, teaming.

Mr. GORDON: How long have you lived in Massena?

Mr. HUBBARD: Twenty-one years.

Mr. GORDON: Do you know the conditions of traffic on the South Sault?

Mr. HUBBARD: Yes, sir.

Mr. GORDON: Where do you live?

Mr. HUBBARD: Right in the village.

Mr. GORDON: What has been your opportunity for observation of the traffic on the river?

Mr. HUBBARD: I used to carry the passengers to and from the river from the village during practically all the traffic on the river for the last twenty years.

Mr. GORDON: What official position do you have in Massena?

Mr. HUBBARD: I am president of the village.

Mr. GORDON: Are you interested in the welfare of the place?

Mr. HUBBARD: Yes, sir.

Mr. GORDON: What has been the character of the traffic through the South Sault of recent years?

Mr. HUBBARD: Well, in 1910 and 1911 the steamer *Algona* used to run Saturday excursions during the warm weather regularly. They would leave Cornwall in the afternoon, about two o'clock, and get around the landing around three, and go down the South Sault and go through the canal and back to Richards Landing. That was once a week. In 1907 they made two or three trips, but there was no business, and it was abandoned.

Mr. GORDON: Has there been anything done since?

Mr. HUBBARD: Nothing since.

Mr. TAWNEY: What is the depth of the Grasse river from its mouth away up to the dam?

Mr. HUBBARD: I cannot tell.

Mr. GORDON: One of our witnesses testified that it was sixteen feet.

Mr. TAWNEY: What is the depth of the dam above the canal?

Mr. GORDON: About thirty feet.

Mr. TAWNEY: What is the distance from those shoals to the mouth of the Grasse river?

Mr. HUBBARD: About twelve miles; three miles through the canal and nine miles down the river.

Mr. KING: I suggest that a bus driver is scarcely an expert on canal navigation.

Mr. TAWNEY: The distance would be the same, whether you go through the canal and the Grasse river, or whether you go down through the South Sault and the Cornwall canal?

Mr. HUBBARD: About the same, I would think.

Mr. KING: The fact that this witness drives a bus in Massena does not make him a competent witness to tell us what the nature of the navigation is.

Mr. GORDON: He was asked what the distance was, not what the navigation is.

Mr. MIGNAULT: Have you maps showing the depth of the South Sault channel?

Mr. GORDON: The profile shows to the foot of the South Sault and anybody by scaling it can get the depth of the water.

Mr. KING: The profile shows the conditions after the building of the dam.

Mr. GORDON: It shows the existing conditions. It shows the present line of the water, and it shows the present line of the bottom of the river.

Mr. RICKEY: That top blue line on Exhibit D shows the existing water surface of the South Sault channel, and the other line shows the bed of the stream.

Mr. TAWNEY: Have you any hydrographic survey of the stream?

Mr. RICKEY: The United States chart of the St. Lawrence river, No. 1, shows the soundings.

The witness was not further examined.

Mr. GORDON: That is all the evidence we have.

Mr. GUTHRIE: I have nothing to offer in evidence.

Mr. TAWNEY: Mr. Solicitor General, before you proceed, for my own information I would like to inquire if the United States Engineer in charge of this district, from Cornwall up to Prescott, is present.

Mr. GORDON: Mr. Churchill has been here all the time.

Mr. TAWNEY: Mr. Chairman, may I be permitted to ask him a question? I observe in next to the last paragraph of the statement in response by the Dominion Government, reference to the policy of the Dominion as well as the policy of the Government of the United States. It suggests to me an inquiry with respect to the conditions of that river from Cornwall up to Prescott; and I would like to get some information from the United States engineer, if I may be permitted to do so, for my own personal information.

Mr. KOONCE: I will state, Mr. Chairman, that it was my purpose to call Mr. Churchill, our engineer, at some stage in the proceedings, for your enlightenment. We do not consider that we are partisans in any sense, and his evidence would be in the nature of information for you all. We thought it would be better to defer calling him until a later stage of the proceedings. He is making some calculations, and has not quite finished them. If the other side will go ahead with their evidence it will be very satisfactory to me. If you desire to hear Mr. Churchill now, all right.

Mr. MAGRATH: You say he is not ready now?

Mr. KOONCE: He is not exactly ready now, and whatever evidence he will give will be in the nature of cumulative evidence; it will raise no new issues.

Mr. TAWNEY: How soon will he be prepared to proceed?

Mr. GORDON: You understand that the evidence is closed. I closed in chief and the gentlemen on the other side say that they have no evidence. I think you were speaking under a misapprehension.

Mr. KOONCE: Of course, Mr. Tawney, if you desire any information Mr. Churchill is at your service.

Mr. TAWNEY: If it does not interfere with the Solicitor General getting away, there are facts which I wanted to ascertain and which might be of some importance to him in connection with his argument.

Mr. GUTHRIE: We have a great many witnesses here, but in view of the nature of the evidence I do not think there is much discrepancy as to the facts. It is practically admitted by your men and ours, so I do not propose to call those witnesses.

TESTIMONY OF JOHN C. CHURCHILL.

JOHN C. CHURCHILL, after being first duly sworn, was examined and testified as follows:—

Mr. TAWNEY: Mr. Churchill, you are the United States District Engineer here?

Mr. CHURCHILL: I am the assistant engineer in local charge of the St. Lawrence river and lake Ontario.

Mr. TAWNEY: The assistant engineer of this district?

Mr. CHURCHILL: Yes, sir.

Mr. TAWNEY: What are the territorial limits of the district in relation to the St. Lawrence river?

Mr. CHURCHILL: From the international line to the Niagara river.

Mr. TAWNEY: Are you familiar with the powers that are developed and the powers that are undeveloped between the international line up as far as Prescott?

Mr. CHURCHILL: I am to some extent, yes, sir.

Mr. TAWNEY: Do you know how many powers there are developed now on the Canadian side and the extent of them?

Mr. CHURCHILL: There is one directly across at Mill Rush. I think that is about 2,500 horse-power. I do not have this information definitely at hand. There are two or three other small powers, I understand, on the Cornwall canal.

Mr. TAWNEY: They are developed, are they?

Mr. CHURCHILL: Yes, sir. Of course, the big undeveloped power is at Long Sault rapids.

Mr. TAWNEY: That is in the north channel of the Long Sault rapids?

Mr. CHURCHILL: Yes, sir.

Mr. TAWNEY: I am speaking of the Canadian side?

Mr. CHURCHILL: Yes, sir.

Mr. TAWNEY: Are there any undeveloped powers on the north side of the St. Lawrence, or the Canadian side, except the one at the Long Sault?

Mr. CHURCHILL: At the foot of the Galops rapids there is a power which might be developed. That would probably extend entirely across the river.

Mr. TAWNEY: That would be an international development?

Mr. CHURCHILL: Yes, sir.

Mr. TAWNEY: But I am speaking more especially of powers that are wholly within the territorial jurisdiction of Canada, undeveloped?

Mr. CHURCHILL: I do not recollect any that are entirely in Canada.

Mr. TAWNEY: Can you state the powers undeveloped and the powers developed on the American side of the line between the boundary and Prescott?



Mr. CHURCHILL: At Massena, of course, there is a plant that is turning out about 86,000 horse-power. At Waddington there is a power which you might say is undeveloped. There has been a dam there for a great many years, but it is not used nearly to the extent that it might be. There used to be a power in the Galops rapids about 7 miles below Ogdensburg, which was created by the use of a wing dam extending out in the St. Lawrence river on the American side, but that was a very low-head power, and it was abandoned. I do not think it has been in use for thirty years.

Mr. TAWNEY: Is there any undeveloped power at the foot of the south channel of the St. Lawrence river at Long Sault island?

Mr. CHURCHILL: Yes, sir.

Mr. TAWNEY: Is that wholly within the territory of the United States?

Mr. CHURCHILL: That is wholly within the territory of the United States.

Mr. TAWNEY: That is all I want to ask.

Mr. KEEFER: May I ask a few questions following your examination?

Mr. TAWNEY: Certainly.

Mr. KEEFER: You were speaking about the large power at the Long Sault. That is an international one?

Mr. CHURCHILL: Yes, sir.

Mr. KEEFER: And the proper way to develop that is from shore to shore?

Mr. CHURCHILL: Yes, sir; I think so.

Mr. KEEFER: And in the doing of that, I take it, the power will be chiefly in the Long Sault, that is on the Canadian side?

Mr. CHURCHILL: That is where the large volume of water flows. The international line is north of the island and is in the main channel, so I do not know that that would entirely follow because the South Sault is entirely American water.

Mr. KEEFER: The question of the division of the water does not come into the matter. That is not what I am talking about. Would it not be good engineering to consider this South Sault channel as the proper place to put the lock in such an international development; a large lock like the Sault put at the foot of this South Sault channel, and utilize that?

Mr. CHURCHILL: I question that pretty much. I think it should be in the main channel.

Mr. KEEFER: You think the lock should be in the main channel?

Mr. CHURCHILL: Yes, sir.

Mr. KEEFER: Then, what use should be made of the South Sault channel?

Mr. CHURCHILL: Well, that might be developed as a power canal.

Mr. KEEFER: It would have large possibilities or potentialities?

Mr. CHURCHILL: It would to the extent of the flow of water that would pass down it.

Mr. KEEFER: And, of course, any dam that is put in there would have to be removed before any such thing could be done? It would have to come out?

Mr. CHURCHILL: Yes; I should say so.

Mr. KEEFER: And, therefore, it is important not to alienate in any way that site from international control? I am speaking with regard to the future development.



Mr. CHURCHILL: You are referring now to this weir?

Mr. KEEFER: I am not talking about this weir or anything else. It is very important, looking to the future, that the control of that site should be maintained by the present sovereign powers.

Mr. TAWNEY: Which site are you speaking of?

Mr. KEEFER: The South Sault channel. It is at the present time vested either in the United States or the State of New York, is it not?

Mr. CHURCHILL: The placing of the weir there does not change title to the land on which it is placed. That is particularly provided for in the permit.

Mr. KEEFER: Then, what interest do these parties get if they get such an order?

Mr. CHURCHILL: They simply get the right to build that across the navigable waters of the United States and a permit from the Secretary of War which will permit such a construction.

Mr. GORDON: And that permit is revocable at any time?

Mr. CHURCHILL: It is revocable at any time. The structure could be removed at any time by an order of the Secretary of War.

Mr. TAWNEY: If I understand you correctly, all of the possible power sites that are wholly within the territory of Canada are now developed between the international boundary and Prescott?

Mr. CHURCHILL: I think they are.

Mr. TAWNEY: And the two principal ones that are undeveloped on the American side are the South Sault and the Waddington?

Mr. CHURCHILL: Yes, sir. I do not know of any on the American side that would be of any great value.

Mr. TAWNEY: And except the development at Massena, none of the fully developed powers is wholly within the territory of the United States?

Mr. CHURCHILL: No, sir; that is the only one.

Mr. GUTHRIE: You do not mean to say that this power is now fully developed?

Mr. CHURCHILL: It is fully developed to the extent of this plant.

Mr. GUTHRIE: It is developed to the extent of the present plant, you mean?

Mr. CHURCHILL: Yes, sir. You might take the whole river in. There is no end to it.

Mr. GUTHRIE: That is the fear we have.

Mr. KEEFER: By increasing the head can you not take more water through the present canal?

Mr. CHURCHILL: That would be possible.

Mr. KOONCE: You have been in charge of or been connected with the district in which this power of the St. Lawrence river is, for a number of years?

Mr. CHURCHILL: Yes, sir; for over twenty years.

Mr. KOONCE: You have made surveys of both the north and south channels at various times?

Mr. CHURCHILL: I have never made any of the north channel. I have of the south channel.

Mr. KOONCE: So you are familiar with the navigable condition of both channels. What I particularly desire to ask you about is this proposition of the St. Lawrence Power Company for this ice diversion scheme. You have examined their plants and that scheme?

Mr. CHURCHILL: Yes, sir; I have also watched the operation of their models.

Mr. KOONCE: What is your opinion as to the efficiency of that scheme for producing results?

Mr. CHURCHILL: I believe if completed with the weir it would be an efficient scheme and would do away largely with the ice troubles which they are trying to get rid of.

Mr. KOONCE: In other words, you think if this scheme is put in operation they will get this water during the winter and thereby be enabled to run their plant during the winter as they desire.

Mr. CHURCHILL: I think so. I would not say it would absolutely eliminate that trouble, but I think it would very much help it.

Mr. MAGRATH: Do you think it would intensify the ice troubles on the Canadian side?

Mr. CHURCHILL: I do not see why it should.

Mr. MAGRATH: The suggestion was made yesterday that the Canadian canal had certain ice troubles.

Mr. CHURCHILL: I do not think it extends far enough up the river to make the diversion of ice of any great importance, and then another thing, I was here last winter for the very purpose of observing the operation of this ice. I came up, I think it was either the latter part of December or the first of January. At that time the ice was beginning to clog in the lower part of the South Sault, but we had a lot of men working and getting out the ice to get rid of it. At that time the ice was coming down to some extent in the South Sault. The next time I came was in February and the South Sault was very largely blocked. I think the draught of water at that time was something less than 6,000 cubic feet per second as against their present draught of 26,000 to 28,000. Almost all of the ice then was going down into the north channel any way. There was none of it coming down because the bar was covered over. There was a solid mass of ice and they were shooting it out with dynamite.

Mr. TAWNEY: Were there any ice gorges in the north channel at that time?

Mr. CHURCHILL: I do not think there were. I am not positive about that. That was in the latter part of February.

Mr. MEREDITH: May I ask Mr. Holgate one question about these papers which I found on the desk this morning, and which I asked for yesterday?

Mr. MAGRATH: Certainly.

#### TESTIMONY OF HENRY HOLGATE.

HENRY HOLGATE, a witness produced on behalf of the applicant, who had been previously sworn, resumed the stand, and upon further examination, testified as follows:—

Mr. F. E. MEREDITH: Mr. Holgate, I asked you yesterday if you would produce the data which you had received from the petitioner in this matter and which enables you, with other information, to give your evidence. Is this the data that I have here?

Mr. HOLGATE: Yes, sir.

Mr. MEREDITH: I would like you to leave this here for some time so that we can go into it.

Mr. HOLGATE: There is no objection to that.

Mr. MEREDITH: Is this the data complete that you received from the petitioners, or was there any other written matter that you had?

Mr. HOLGATE: That is a condensation of everything. Anything else is included in that. An engineer will be able to distinguish about all work.

Mr. MEREDITH: I see certain references to ice conditions. Did you get all the data regarding ice conditions from them, or did you make any experiment yourself?

Mr. HOLGATE: I made no experiment.

Mr. MEREDITH: Did you take the data regarding ice conditions from them?

Mr. HOLGATE: The existing conditions in the river?

Mr. MEREDITH: Yes.

Mr. HOLGATE: Yes, and from general information that I had on the subject apart from them.

Mr. MEREDITH: Is that in the shape of notes?

Mr. HOLGATE: No; that is in the shape of my own observations at various times. It is not in the shape of notes. It is largely public information.

Mr. MEREDITH: On what occasion did you go to make those observations?

Mr. HOLGATE: At various times.

Mr. MEREDITH: For what purpose?

Mr. HOLGATE: Just general information. You see some years ago I was connected with the former application, and in connection with that I gathered a great deal of information.

Mr. MEREDITH: How many times have you been in the neighbourhood of the south branch in winter? Or have you been there at all, as a matter of fact?

Mr. HOLGATE: Yes, but I think only once in the winter.

Mr. MEREDITH: Did the applicant company furnish you with a copy of the letter written by Mr. Rickey, dated October 26, 1910, to Mr. W. A. Bowden, chief engineer of the Department of Railways and Canals, a very long letter, and to which apparently was attached a very long report on ice conditions?

Mr. HOLGATE: No, sir.

Mr. MEREDITH: You have never seen that letter?

Mr. HOLGATE: I know of it.

Mr. MEREDITH: You heard it spoken of yesterday, but you have never read that letter?

Mr. HOLGATE: I have never read it. That was ten years ago.

Mr. TAWNEY: Mr. Holgate, I was going to ask Mr. Churchill another question. Perhaps you can answer it. Are you acquainted with the power developments on the St. Lawrence above the international boundary line?

Mr. HOLGATE: Not definitely.

Mr. TAWNEY: Do you know where they are?

Mr. HOLGATE: I may say that I could not answer definitely as to that.

Mr. TAWNEY: I wanted to inquire whether they were constructed privately and are privately owned, or whether they are owned by the Dominion Government.

Mr. HOLGATE: They are privately owned.



Mr. TAWNEY: And they were privately constructed?

Mr. HOLGATE: Yes, sir.

Mr. KEEFER: I think it was generally stated that the total development of power at this point was about 700,000 horse-power?

Mr. HOLGATE: You mean the development on the whole of the river?

Mr. KEEFER: Yes; the whole of the river.

Mr. HOLGATE: Yes; I think you might say that.

Mr. KEEFER: And of that there is only 86,000 at present developed by the applicants?

Mr. HOLGATE: Yes, sir.

Mr. MAGRATH: You may proceed with your argument now, Mr. Guthrie.

#### ARGUMENT OF HON. HUGH GUTHRIE.

Mr. GUTHRIE: As I was about to say, in my opinion, representing the Government of Canada in this matter, there is not very much between us upon the facts, and my submission is that upon the admitted facts, upon the statement of the case which has been put in by the applicant company, there is no power in the International Joint Commission to approve this order; and if there were such power I do not think in their discretion they should approve it.

We rely, of course, in that position, in the first place, upon what we consider our absolute treaty rights. The Treaty of 1842, commonly known as the Ashburton Treaty, is still a treaty in full force and effect. It is the treaty which lays down the boundary lines between Canada and the United States. Of its very nature it is a permanent and binding arrangement, and was reached after a long discussion by the various countries. It is an arrangement which was come to upon consideration, valuable consideration. The preamble of the treaty itself recites that it is an arrangement made with such equivalents and compensations as are deemed just and reasonable. Where Canada yields a point in a particular instance the United States yields a point in another instance. It is founded, therefore, upon equivalents and compensation. A treaty of that nature must be looked on as a very sacred international bargain which cannot lightly be broken, varied or altered.

Now, article VII of the Treaty is very explicit in regard to the channel of the St. Lawrence at Long Sault island. Those terms which apply to the Long Sault read as follows:—

“It is further agreed, that the channels in the river St. Lawrence on both sides of the Long Sault islands . . . shall be equally free and open to the ships, vessels, and boats of both parties.”

There are three requirements of that section with regard to both of those channels. The first is that they shall be equal, that is the usage of them. Next they shall be free, and next they shall be open. It is interesting to note just a point in regard to the use of that word “equally.” There has been some comment on the use of the word. If I understand rightly, the contention of my learned friend, Mr. Koonce, when the matter was before this Commission at Atlantic City, he sought to argue that “equally” meant merely that there shall be no discrimination; that the South branch of the Long Sault might be closed so long as it was closed against all parties, because then there would be an equality



of non-user, which would satisfy the language of the treaty. I am unable to agree with any such view of plain language, and I am satisfied it would be nothing short of a distortion of words to put such a construction upon it. But the word "equally," has a history. In the original draft of the treaty the word "equally" did not appear, and in other sections of the treaty the word "equally" does not appear with regard to the New Brunswick waters.

Mr. MIGNAULT: Can you suggest, Mr. Guthrie, why it was put in?

Mr. GUTHRIE: Yes; I am going to suggest why it was put in. Would you permit me to proceed, because that is the point I am making. The word "equally" did not appear in the first draft. Now, this is a matter, perhaps, of some slight importance. It is an historical point anyway. In the works of Daniel Webster, published by the well-known house of Little, Brown & Company, of Boston, in 1856, we get some light upon the question as to how the word "equally" came to be inserted.

Mr. MIGNAULT: Will you give me the reference, please?

Mr. GUTHRIE: The reference is to volume VI of the Works of Daniel Webster, published by Little, Brown & Company, of Boston, in 1856, at page 282. The first reference is to a letter written by Lord Ashburton and addressed to the Honourable Daniel Webster on July 16, 1842. In this letter Lord Ashburton enters a mild protest or suggestion that under certain circumstances the passage of a British vessel might be refused, and he suggests:—

"We want a clause in our present treaty to say that, for a short distance, namely, from the upper end of Upper Long Sault island to the lower end of Barnhart's island, the several channels of the river shall be used in common by the boatmen of the two countries."

Mr. Webster replied to that letter in a communication dated July 27, 1842. From his letter I read the following, at page 284:—

"Beside agreeing upon the line of division through which these controverted portions of the boundary pass, you have suggested also, as the proposed settlement proceeds upon the ground of compromise and equivalents, that boats belonging to Her Majesty's subjects may pass the falls of the Long Sault, in the St. Lawrence, on either side of the Long Sault islands, and that the passage between the islands lying at or near the junction of the river St. Clair with the lake of of that name shall be severally free and open to the vessels of both countries."

Mr. Webster's interest was in the river St. Clair. It happened that at Detroit the channel passes through Canadian waters. He saw that if the clause were made plain and the treatment for both countries made equal, it might afterwards be contended that the important channel at Detroit was wholly in Canadian waters, and that might not accord equal treatment to the ships of the United States. He agreed that the matter should be straightened out, and toward the end of his letter he says:—

"It being understood that all the water communications and all the usual portages, along the line from lake Superior to the Lake of the Woods, and also Grand Portage from the shore of lake Superior to the Pigeon river, as now actually used, shall be free and open to the use of the subjects and citizens of both countries."

At the close of Lord Ashburton's letter of July 29, 1842, he says:—

"I should remark, also, that the free use of the navigation of the Long Sault passage on the St. Lawrence must be extended to below Barnhart island, for the purpose of clearing those rapids."

At page 352 of the same volume in the letter of Mr. Webster it is said:—

"So, again, there are several channels or passages of different degrees of facility and usefulness, between several islands in the river St. Clair, at or near its entry into the lake of that name. In these three cases, the treaty provides that all the several passages and channels shall be free and open to the use of the citizens and subjects of both parties."

After the draft treaty, which is said in this work to be in the handwriting of Mr. Webster, and it had been transmitted by President Tyler to Congress, the word "equally" was inserted, and it is said here in the handwriting of Mr. Webster, "To make plain and clear that the usage and rights of those waters specifically mentioned in paragraph 7 of the treaty should be equally free and equally open to the ships, vessels, and boats of both parties". Mr. Webster's interest being at Detroit rather than in the St. Lawrence, and the interest of Lord Ashburton, according to his original letter, being more particularly in regard to the St. Lawrence river.

That is so plain a declaration, in so prominent a document as an international treaty, that I do not see how any tribunal or any court could vary it or set it aside in any way; but, on the contrary, it must be bound by it and give it due effect.

Now, it was suggested in the argument of my learned friend, Mr. KOONCE, that perhaps it had been superseded.

Mr. TAWNEY: Before you leave that, may I ask you a question? Do you contend that the word "equally" applies to any right other than that of the right of navigation?

Mr. GUTHRIE: It shall be "equally free and open."

Mr. POWELL: To the ships, vessels, and boats?

Mr. GUTHRIE: Yes; to the ships, vessels and boats.

Mr. POWELL: That is a limitation.

Mr. GUTHRIE: For the moment I would think that navigation would be the only thing in their minds. At that time the power development would hardly have been present in their minds.

Mr. POWELL: The limitation to navigation means exclusion of everything else.

Mr. GUTHRIE: "Ships, vessels and boats" is as broad a term applying to navigation as I think it could well frame. It would include all the craft that were known at that time.

Mr. MIGNAULT: It might include the right to fish in these waters?

Mr. GUTHRIE: No; I do not think the free rights to boats would include a fishing right.

Now, it has been suggested that that treaty has in some way been superseded by the subsequent treaty under which the International Joint Commission has been established.

Mr. MIGNAULT: There was a treaty of Washington in, I think, 1871, which refers to the right of navigation.

Mr. GUTHRIE: There is some reference to it, but not as affecting this portion of the river.

Mr. POWELL: What section of the treaty of 1871 applies to the navigation of the St. Lawrence river?

Mr. KOONCE: Article XXVI.

Mr. GUTHRIE: That is navigation below Cornwall. It does not affect this matter at all. Now, the Treaty of 1910 was a treaty, as stated in the preamble, made between the United States of America and the United Kingdom of Great Britain,

"to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise."

Under that treaty this Commission, under Article VII, was established, and by Article VIII the jurisdiction of this Commission was also established. There is nothing in the treaty of 1910 to confer jurisdiction upon this body save what is set out in Article VIII. It is the only article which confers jurisdiction, Article VII being the article which constitutes the body. Article VIII says:—

"This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this treaty the approval of this Commission is required, and in passing upon such cases the Commission shall be governed by the following rules or principles . . ."

Now, there are only two classes of cases which would come before this Commission brought here by the parties. I do not refer to those cases which may be referred by the Governments. It is clear that the case does not come under Article IV or have any bearing upon Article IV, because that applies only to waters flowing out of national waters. So it must come under Article III if it comes at all. Article III reads as follows:—

"It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission."

That, I take it, means—and I submit that this is a correct meaning of the sentence—that if in any case the United States or the Dominion of Canada seeks to make any change in its own water or waters under its own jurisdiction, they may do so provided they obtain the approval of this Commission; but in doing so they must not transgress Article I. Article I says:—



"The High Contracting Parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally, subject, however, to any laws and regulations of either country, within its own territory, not inconsistent with such privilege of free navigation and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries."

The moment there is interference with what the article calls "privilege of free navigation," then neither country has any jurisdiction in its own international waters, or its own territorial waters, to do any act. Both countries might, if they saw fit, refer such a matter to this Commission under other sections of this treaty. But until that is done, and it would have to be done by both countries, neither one nor the other can do any act which will be inconsistent with such "privilege of free navigation." That, I submit, makes the old treaty power rights stronger than they were in the original. It does not supersede it in any way. It does not destroy or annul or alter it. But by Article VIII it is expressly provided that the foregoing provisions shall not apply to or disturb any existing uses of boundary waters. One of the uses of boundary waters is the use of navigation. That is a use, and it is so described in Article VIII. The three uses that are there permitted and the priority in which they are permitted are stated to be, first, for domestic and sanitary purposes; second, uses for navigation, including the service of canals for the purpose of navigation; and third, uses for power and navigation. Navigation is a use, and there is an express limitation in Article VIII that the foregoing provision—that is the provision which confers jurisdiction on this board—shall not apply to or disturb any existing uses; and the existing use that we rely upon in this case is the use of navigation which was conferred on us by the Ashburton Treaty, section 7 of which provides that this particular branch of this particular river shall be kept free and open to the vessels, ships, and boats of both countries.

MR. TAWNEY: Do you observe in Article I that the limitation there is to navigable boundary waters?

MR. GUTHRIE: Yes.

MR. TAWNEY: Do you make any distinction between navigable and non-navigable boundary waters?

MR. GUTHRIE: I do not make the distinction, but notice that the words "navigable boundary waters" are there, and I submit that any water that is capable of navigation is navigable water. The fact that ships do not ply does not affect the question of whether the water is navigable or not. We have in Canada many rivers and lakes upon which ships never ply. But there is deep water, and some day they might be used. Certainly it is abundantly proved by my learned friends themselves that this stream, the South Sault, was used for commercial purposes. It was used for pleasure boat purposes. It was used for excursion boat purposes, which is a combination of business and pleasure. Until the railway came in there it was more or less common. It was navigable and it is navigable to-day. But the evidence seems pretty clear that there was very little traffic on it; perhaps none except the motor boats and launches. There were the docks. One of the witnesses said, "There is a wharf at my place; there is another



at Dodges shoal, and there is another a little higher up." He also said, "Freight used to come down, but the railways changed all that".

Mr. MAGRATH: Do you think it would be necessary to go both ways to cause it to be navigable?

Mr. GUTHRIE: We can go both ways. We have in the South Sault an alternate route. I do not say it is the best route. Let us have an ice jam in the North Sault; let us have a gate on one of our locks thrown out of commission; we have the alternate channel, and we do not want it blocked. But there is a larger view of it even than that, and the larger view is this: Some day—and I trust soon—there will be a power development and a dam across the North Sault. It has to be an international work, I assume. Then it becomes all the more important to have the South Sault as a navigable channel.

Mr. POWELL: That is an argument addressed to our discretion.

Mr. GUTHRIE: Yes; I am only pointing out the importance of it in this. I am not yielding a point in regard to our rights under the Treaty. Now, my information is that the Government has in contemplation the construction of a dam across that north branch. It will have to be undertaken internationally, I assume, with the concurrence of the United States. Probably it may be referred to your Commission for settlement. But if such a work is undertaken, and that north channel is closed, the south channel becomes all the more important. You may say that the Richelieu boats are too big to come down it now, but all that is wanted there is a lock to make navigation good. My point is, however, that the water is navigable, and that is so abundantly proved that I do not think I need labour the question.

Mr. POWELL: There is one thing that bothers me, and I think the case is stronger in your favour than you are putting it, because the two High Contracting Parties in their language in the Ashburton Treaty have recognized this very division of the water as navigable and provided for it.

Mr. GUTHRIE: I would not expect for a moment that I could put it in language as strong as the Treaty. I am relying on the Treaty, but I am trying to point out some of the reasons for the great importance of this question to the Government of Canada. The thing that is also important and should not be lost sight of is this: that this very concern, this Aluminum Company of America, with one of its subsidiary companies, known as the Long Sault Development Company, tried the very thing that the Government wanted to do. They tried to get the right to build a dam across there, and they did get the right from the State of New York, but subsequently that right was taken away by the State of New York and the matter got to the courts and to the Supreme Court of the United States.

When the Long Sault Development Company got its charter to construct that dam it was a very broad one. They set out that "the rights hereby granted shall never be so used as to impair or obstruct the navigation of the St. Lawrence river, but, on the contrary, that such navigation shall be preserved in as good condition as, if not better than, the same is at present, regard being always had to the amount of the natural flow of water in said river as affecting its navigability from time to time."

Now, New York State undertook to grant lands under the South Sault to this company. It was held by the United States Supreme Court that

they could not do so, but all through the Development Company took the position that it was navigable water and they were going to actually improve it. Their charter certainly forbade them injuring the navigation, and I point out also to the Commission that in every permit issued at Washington the navigation of the river has been recognized because the clause has been put in that they must not injure navigation. The three permits contain the clause. The charter of the St. Lawrence Power Company, obtained from the State of New York has the same clause—they must not injure navigation. The navigation has been recognized. As I said before, though, the matter has been so clearly proven and demonstrated here that I need not argue the question any further.

Now, I go back to the Treaty, and, as one of the commissioners remarked, that is certainly our strongest ground. That is the ground that we rely on as a bar to any action by this Commission in regard to this application. I stated in the beginning that in the opinion of the Government of Canada the Commission had no jurisdiction. Whether I used the word "jurisdiction" correctly or not may be open to question, but certainly I am putting it on fair grounds when I say that the Commission has no right to do it. We claim a treaty right. If that Article VII of the Ashburton Treaty does not give the people of this country free and open right to those channels for the ships, vessels, and boats of this country, if this Commission has power to close that channel by this dam, it can close the Detroit river, it can close the St. Lawrence river. Where is it going to stop? This Government relies on that treaty. It looks on it as sacred, and it claims its rights under it. Treaties must be respected. The whole world is convulsed with a war now because a nation in a moment of madness undertook to deny treaty rights. We want every right that is given to us under that treaty. For that reason we ask this high tribunal not to seek to vary it, not to deny our right in a single particular, but to keep open and free that channel specifically mentioned in Article VII.

Now, as I said yesterday, the Government of Canada is not disposed to play dog in the manger in this matter. We have no such desire and no such wish. I think it would have perhaps been better if my learned friend, Mr. Koonce, yesterday had obtained a letter from the Secretary of War directed to the Government at Ottawa instead of to this Commission, asking that this matter be taken up. I can assure him it would have been taken up and would be yet, and the shortest cut to obtain the relief in this matter is for the Government of the United States, it being the party who should institute proceedings, to communicate at the earliest possible moment with the Government of Canada, in order not only that the whole of the greater question may be discussed, but that this particular difficulty may be discussed with a view of making it operative and satisfactory for purposes of the present war, and at the earliest moment of time. My learned friend suggests that that means delay. They do not want it. The president of their company does not want it. It takes time and can never be done. If the United States wants it done I have authority to say let them apply to Canada and the question of delay in adjusting these matters will not be the fault of Canada.

MR. KOONCE: Will you please state how that can be brought about?

MR. GUTHRIE: Let the Secretary of War send a telegraphic communication to Sir Robert Borden, and two men can settle this matter in an

hour. We are dealing with the Government of the United States and not with a very weighty private corporation, and that is a very grave distinction. I submit to you that if this dam were to go in and become the property of this private company, it will never come out, and that river will be blocked. I heard it suggested by counsel, "Suppose it were put in and we rip it out at the end of the war." If it goes in it will never come out. That company is too strong. Three or four years from now they will say, "Look at the money we have spent. Leave it there." We want to be in a position of dealing fairly and squarely with the Government of the United States, because we apprehend that this is an international matter. If the two Governments should refer it to this Commission—and I think probably they would refer the greater question to this Commission—all well and good. Your jurisdiction would then be complete, but, in the meantime, my suggestion—I can only make it as a suggestion—is that my learned friend Mr. Koonce should get busy with the wires and ask his Government to make an intimation, and I am sure that in hours it will receive a reply, and if a commission will come to Canada, or we go to Washington, this particular matter will be dealt with satisfactorily to both Governments, and the lack of production needed for the war will not lie at the door of Canada. My submission, to be very brief, is that under the language of that treaty, Canada has treaty rights which must not be interfered with.

Mr. TAWNEY: Pardon me for asking you one question with reference to the construction of the Webster-Ashburton treaty. It may have some bearing upon this matter. Was there any protest by Canada or by Great Britain to the diversion from the south channel of the Long Sault of the water of that channel, or any part of it, through the power canal of the St. Lawrence River Power Company at the time that diversion was authorized by the United States Government?

Mr. GUTHRIE: I am not in a position to answer that question, but I was in the House of Commons, as was also a member of your Commission, at the time this question occupied the attention of the House of Commons. That was in the year 1910, after the construction of the canal, and I can tell you that there was a very loud and long protest on that occasion.

Mr. TAWNEY: That had relation, however, primarily, to the development of power in the Long Sault, that is the north channel of the Long Sault.

Mr. GUTHRIE: Yes, sir, it was charged that one led to the other.

Mr. TAWNEY: I wanted to know whether there was any protest, either through diplomatic channels or otherwise, by either Canada or the British Government, with regard to the diversion which the Government of the United States authorized from the south channel at the time that diversion was authorized?

Mr. GUTHRIE: I am not in a position to answer the question more than to say this, that I do not think the matter was ever brought to the attention of the Dominion of Canada. That was before the Treaty of 1910. It may be that we did not consider that we had any rights at that time.

Mr. TAWNEY: Well, you certainly had your rights under the Webster-Ashburton Treaty, if this was a navigable water.

Mr. GUTHRIE: But the charter of the company says that they were not to interfere with navigation. I suppose that seeing that before us, if we did



see it, we could rely on it, but the fact that they have taken half the water out of that south channel in breach of the terms of that treaty surely does not give them the right to stop it altogether.

Mr. TAWNEY: Not unless the other party acquiesces.

Mr. GUTHRIE: Well, we do not acquiesce; we protest and we protest against the original construction on the ground that they had no proper authority to make that construction. And as vigorously as I can protest I do protest against that and against any further construction.

Mr. POWELL: That word "free" is a technical term.

Mr. GUTHRIE: I find that the word "free" is about the broadest—

Mr. POWELL: It is at once the broadest and the most constricted.

Mr. GUTHRIE: It has such meaning as unfettered, uncontrolled, unhampered, uninterrupted, without let or hindrance. It is as broad a word as you can use.

Mr. POWELL: Are those dictionary meanings?

Mr. GUTHRIE: Yes; but not all of them by any means.

Mr. POWELL: But what about this legal use? By a process of evolution the original meaning of the word "free" has been departed from until it can be more fairly described by saying that it was very restricted. Take the law in respect to the use of the highway. Every individual in the United States or Canada has a right to the free and uninterrupted use of the highway. They have the free and uninterrupted use of a river. At the same time, a man using the highway can back his cart in against the sidewalk as long as he does not unreasonably interfere with the driving of others. A vessel can anchor in a stream where another vessel may be beating against the wind and have to get out of his way, and that other man has not a free and uninterrupted use.

Mr. GUTHRIE: Yes, he has.

Mr. POWELL: Not in the language of the dictionary. It is a highly technical use of the word "free."

Mr. GUTHRIE: I certainly think that "free" would not permit the building of a dam across the water.

Mr. POWELL: Is not this the case, that the free and uninterrupted navigation of a river would not prevent the owner, if the owner had such a right of soil in the bed of the river, from erecting therein a pier stretching out so long as it did not unreasonably interfere with navigation, and that question of unreasonable right to navigation will be tried out in a suit for what? For a nuisance. And the thing would be whether it was reasonable or not.

Mr. GUTHRIE: I grant you that all things must be reasonable; otherwise they would be a farce.

Mr. POWELL: If you go back to the Ashburton Treaty you may restrict the word "free" and adopt it as a highly technical term which does not mean free as given by lexicographers; yet you cannot restrict it to the point of absolute prohibition.

Mr. GUTHRIE: It has been argued that that word "free" means untaxed or without charge, but the word "open" was put in to extend it, and you have both words to deal with. So if one foot is not on strong ground the other foot is.

Mr. MIGNAULT: The word "open" with the word "free" shows that navigation should not be restricted.



Mr. POWELL: In the United States there was an island in the centre of a river, and the railway company was building two bridges—the right of free and uninterrupted navigation was invoked, and it came before the Supreme Court of the United States in the way of getting an injunction against the railway company for putting the bridge over one branch of the stream and absolutely closing it. The Supreme Court of the United States held that inasmuch as there was an ample and sufficiently capacious alternate route, the injunction would not lie.

Mr. GUTHRIE: They did not have a treaty with another nation that said both routes shall be open.

Mr. POWELL: If you had not the Ashburton Treaty the other principle might come in.

Mr. GUTHRIE: I am making no suggestion of that kind at all. We are sleeping at night on the Ashburton Treaty.

#### ARGUMENT OF FRANK H. KEEFER.

Mr. FRANK H. KEEFER: I would not want to say anything to derogate from what the Solicitor General for Canada has urged. I had something to say on the question of the word "equally". The Solicitor General has pointed out that in that very Section VII you are dealing not only with these channels on both sides of the Long Sault island, but you are also dealing with the channels in the river Detroit on both sides of Ile Bois Blanc, and the river St. Clair itself. He has pointed out how the word "equally" has been inserted as being applicable to all. In addition, the contention is that the adjective "equally" is qualifying "free and open" in such way that if either side should close one of these important channels, which we say cannot be done, that therefore under the treaty the rights of the parties subsist, because it has been closed equally to both sides. Well, that suggestion of counsel for the other side is untenable. The words are "equally free and open."

Mr. TAWNEY: For a specific purpose.

Mr. KEEFER: Yes, for a specific purpose, namely, the movement of boats.

Mr. TAWNEY: Let us assume that that purpose no longer exists.

Mr. KEEFER: But that would not cause you to abdicate your rights under the treaty. That purpose may not exist to-day, but it may exist in the future.

Mr. TAWNEY: Suppose it does not exist, has it the same effect?

Mr. KEEFER: Certainly, until the two High Contracting Parties vary it, that treaty stands, and the two High Contracting Parties are the only ones who can vary the treaty. The High Contracting Parties have not delegated to this Commission the duty of altering this high agreement, the Ashburton Treaty. Wherein has been given this Commission the power to close, if they saw fit, on the application of any party, the Detroit river? That is part of this transaction mentioned in the treaty. The part expressed in the treaty is "free and open" and the qualification is "equally free and open" and the argument advanced on the other side is that if you close it, it is still free and open. As the Solicitor General has said, such a contention amounts to the worst distortion of language one could possibly hear. It is a pretty good Irish bull to say that if it is closed it is open, and it is free.

I would point out to you that supposing the application were now made under the treaty to erect, for the first time, say, that little spur below the Massena canal, and the application was to confirm the plans for such a transaction—of course that was built before the treaty, and therefore, does not come under your jurisdiction—but we will suppose that application was made to do that, and it came before your Commission. If that did not affect navigation, it is quite within your authority to do so; it is in the navigable boundary waters. But the very minute the applicant in his application shows to you that he is going to stop navigation, you have no power whatever to grant his application. You can make an order relating to that little spur, but you cannot make an order to close up the river. That is the distinction between the two.

Mr. POWELL: I cannot appreciate that at all. Suppose that proof were made that by the construction of a dam we would be improving navigation, and aiding navigation, we would have power to do that. I cannot see where the lack of jurisdiction is.

Mr. KEEFER: The moment you commence to impede or prevent navigation, you have no power to act.

Mr. POWELL: Suppose we said that we would grant the application, but the applicant would have to put in a lock for the purpose of navigation, we would have the power to do that.

Mr. KEEFER: I do not think we need take up time considering a question of that kind. The application, as made, is to close up a navigable channel, and we have got to deal with what we have before us.

Mr. POWELL: If we make an order it is our duty to append to it such conditions as we see fit. If we see fit to annex the condition that there is to be a lock there, the lock must go.

Mr. KEEFER: If you have jurisdiction, yes.

Mr. POWELL: That would not be in violation of the treaty; in fact it would be in furtherance of the treaty.

Mr. KEEFER: I say that this application is in violation of the Ashburton treaty.

Mr. POWELL: The application may be, but we may cut and carve that application in ways that would astonish people.

Mr. KEEFER: Well, I point out that the wording of the treaty is "equally free and open," and yet it is argued by the applicant that if this channel is closed it is not in violation of this treaty, because it is equally closed to both parties. What I say is, that the treaty provides that it shall be equally open to both parties.

Mr. POWELL: I understand your point. In other words, the power to regulate does not mean the power to prohibit, and in this case we must stop short of actual prohibition of navigation.

#### ARGUMENT OF MARSHALL MCLEAN.

Mr. MCLEAN: On behalf of New York State I wish to make a brief statement of the rights of the State, as it seems to me they are affected.

May it please your honourable Commission. I wish to present very briefly two or three points wherein it seems to me the rights of the State of New York are affected by this application. The first is in the matter of the navigable waters, which I am going to assume are affected, because

it seems to me there can be little question, from the testimony brought out, that the waters of the South Sault channel should be considered, and are, in fact, navigable waters. As Mr. Keefer so well put it, waters that are susceptible of navigation are navigable waters, and there is abundant authority for that statement.

That being the case, New York State has an interest in these navigable waters, and a very great interest. In Article VII of our constitution, the sovereign State of New York has conceded to the Federal Government the control of navigation, but no further.

The State of New York has retained its sovereignty in the navigable waters and the lands underlying these waters in the State of New York, whether they are navigable waters, or interior waters, or boundary waters. In questions of navigation the Federal Government is supreme, and so far as these waters are concerned, if the question of navigation only were in issue we would not have the right possibly to raise any question before this Commission. Under the application that has been presented, and the testimony that has been laid before you, a structure is planned which will cross the South Sault channel. It is called a submerged weir. It is, in fact, a dam. The applicant has frankly stated that its effect will be to back up the water in this channel and to practically shut off all but five or six thousand second-feet of the water that heretofore flowed down that channel. It is also frankly conceded that there will be an increased head in the Massena power canal. There will be an opportunity for the diversion of a greater amount of water. This naturally affects the navigability of this river in which the State of New York, with all its citizens, has a very substantial and vital interest. Therefore, it seems to me that we are perfectly right and only acting in the discharge of our duties, in calling your attention to these rights of the State. We feel that the State and its officers would be derelict in their duty to the citizens if we did not present this feature of the case to you.

The second point that I wish to lay before you is, that it seems to me that any applicant coming before this International Commission,—a body of great responsibility and high honour—should be exceedingly and essentially careful that in presenting the application and in coming before this tribunal it should come with its title perfect and with its hands absolutely clean. I may refer to the equitable powers and duties of this Commission. By reference to the charter under which the state of New York incorporated the original corporation, you will find that the legislature took ample care of the rights of the State of New York in the navigable waters, and also of the rights of Canada across the line, because it provides, after enumerating various powers that are given:—

“But not to interfere with the navigation of the St. Lawrence river.”

I am quoting these words from that charter. Now, if in fact this dam does affect the navigation of the St. Lawrence river, it seems to me that this applicant is without power to make this application.

There is one point, under the first heading, to which I omitted to call your attention, and that is that in the very permit issued by the Federal Government itself, the language of the permit is in part as follows:—

“It hereby expresses the assent of the Federal Government, so far as concerns the public right of navigation.”



Not of the navigable waters, not of the lands underlying the navigable waters within the state of New York, but merely the rights of navigation. Our Court of Appeal, in a very recent case, in which it set aside the Long Sault charter—212 New York, page 1, and affirmed in 242 United States, page 72:—

“The state can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties, except in the instance of parcels mentioned for the improvement of the navigation and use of the waters, or when parcels can be disposed of without impairment of the public interest in what remains, than it can abdicate its police powers in the administration of government and the preservation of the peace.”

Mr. MIGNAULT: Did not the New York Court and the Supreme Court make a distinction between an international river and a national river, apparently holding that the State of New York could not exert the rights of the state in an international river. Is that the effect of the decision?

Mr. McLEAN: I do not think it is limited to an international river. The principle applied not only to boundary waters but also to navigable waters entirely within the boundary of the state.

Mr. MIGNAULT: What is the principle? If the State of New York owns the bed of national and international rivers, why cannot the State of New York alienate such rights?

Mr. McLEAN: It can under certain circumstances, but it must be for the public use; the reason, of course, being that the sovereignty of the state is in the people. The legislature, merely being the agent of the people, cannot violate its trust in ceding away the rights of the people in its sovereignty without an adequate return.

Mr. MIGNAULT: That will apply to any river, the principle being that it cannot be alienated for private purposes.

Mr. McLEAN: Yes, it must be for public use. Now, these are the two points that I wish to lay before you. There are a great many ramifications that flow out of these points, upon which long arguments might be made, but I think they have been so clearly laid before you already, that I shall not burden you with my particular views in respect to that.

To come to the last aspect of the matter, as it appears to me, and as I outlined briefly in my opening. It is this: New York State stands ready to make any sacrifice to aid in the winning of the war. Judge Koonce has come here with a direct message from the Secretary of War, asking that this Commission approve the application. A most interesting question has been raised by Mr. Guthrie with respect to the jurisdiction of this Commission. That, of course, I leave in your hands. But if this Commission should determine that it has jurisdiction in the premises, and, further, if it should determine that this application is made in good faith as a war measure—and I assume we must so find in view of Judge Koonce's message—then we stand ready to waive these rights which I have placed before you in this brief statement, but with this reservation—

Mr. POWELL: The effect of your argument being that the State of New York cannot waive these rights in favour of a private interest.



Mr. McLEAN: I consider that this is not a private interest. If you find that it is a war measure, and is necessary for the prosecution of this war, for the United States and its Allies, I say that that takes it out of the question of its being a private interest. But so that it may not be for a private interest, I ask this: that in any permission which your honourable Commission may grant, it should be strictly limited to the period of the war, and that it should be stipulated in that permission that the title to any lands occupied, which now are in the State of New York, should remain there, and that the title of any structure erected on these lands belonging to the State of New York should remain in the State.

Mr. MIGNAULT: As to the title to the lands, is it your contention that the applicant company does not own the lands on which the weir would be built?

Mr. McLEAN: These lands are lands of the State of New York.

Mr. MIGNAULT: And cannot be alienated by the State of New York for private purposes?

Mr. McLEAN: Not without compensation, and for purposes which the legislature would say were public purposes. And even then the question as to whether it was a public purpose would probably have to be passed upon by the court, which would have to determine whether it was in fact a public purpose or not. It has been held in some of our cases that public lighting plants are a public purpose; streets are a public use, street railways are a public use, and I understand that this corporation, in addition to supplying aluminum, also supplies water to the community, and that is a public use. It may supply electric light, and, in so far as that feature would go, it would be a public use. But the application is made here, as I understand it, simply for the purpose of manufacturing an additional amount of aluminum.

Mr. MIGNAULT: Assuming that the additional amount of aluminum is manufactured for the prosecution of the war, would you say that is a public purpose?

Mr. McLEAN: I would.

Mr. MIGNAULT: Irrespective of the profits which the applicant company may derive from the sale?

Mr. McLEAN: That might cast some doubt over the structure after the war, but the structure would still be there and there would be the fundamental principle that so long as it was necessary for the winning of this war it would be a public use. Of course that is my personal view.

Mr. MAGRATH: Does the province of Ontario wish to say anything?

#### STATEMENT OF GEORGE H. KILMER.

Mr. KILMER, K.C.: In view of all that has taken place here, the province of Ontario has nothing to say.

Mr. MIGNAULT: Do you rely on the contention made by the Solicitor General and by Mr. Keefer?

Mr. KILMER: I am relying upon the point raised by the Solicitor General and by Mr. Keefer as to the jurisdiction of this Commission. I think this point would have to be determined before any provincial question arose. The rights of the Province consist in the ordinary rights of riparian owners, and I would assume that if any order is made by this Commission

that order would have to be issued on certain terms and conditions, and if that phase of the question should arise, the Province of Ontario wishes to be present at the settlement of these conditions.

Mr. KOONCE: I do not understand there are any riparian rights of the Province of Ontario affected, because the whole structure, and everything connected with it, is in the United States. If there are any riparian rights, they are in the territory of the United States.

Mr. POWELL: Let us suppose that the diversion of this water lessens the flow of water along the bank on the Canadian side. Does not that affect riparian rights?

Mr. KOONCE: Yes, but there has been no contention that it will affect the water in the territory of Ontario.

Mr. POWELL: It was stated that it would increase the head near the canal.

Mr. KOONCE: The Province of Ontario has not alleged that there is going to be any damage, but if they are damaged the treaty provides expressly that they shall have the same rights as a man on the American side to come to the American courts and claim and recover damages.

Mr. POWELL: That is true, but still it is an invasion of the riparian rights.

Mr. KOONCE: There has been no evidence to that effect; there has been no allegation that there is damage. It is only a question of a few inches of elevation of the water, and that elevation is something that occurs in flood times.

Mr. MIGNAULT: If the effect of the construction of the submerged weir is to throw all the ice on the other side, it may affect certain rights in the Province of Ontario.

Mr. KOONCE: That is a matter that could be submitted by proof.

Mr. KILMER: So far as the rights of the Province, as riparian owner, go, if there is any interference with the flow of water over the lands of the Province, which are the property of the Province, then the Province would wish to be heard on the condition of the terms of any order, and I submit that the province has that right.

#### STATEMENT OF FRANCIS KING.

Mr. Chairman and Commissioners: On behalf of the Dominion Marine Association I wish to say, first, what I know every member of the association would wish me to say, and it is that if the issue were the issue presented here by Judge Koonce, the representative of the War Board of the United States—

Mr. KOONCE: I beg pardon, I plainly stated that I am the representative of the United States Government. I think that ought to be recognized without question.

Mr. KING: I have no intention of suggesting any limitation. If the issue were purely the issue that has been raised by Judge Koonce, on behalf of the United States Government; if the application were one which was brought before your honourable body by the Government of that country, as necessary to win the war, the association would find itself very diffident in bringing forth opposition to the proposal for it would be forced to the conclusion that the winning of the war was the supreme issue.

But the progress of events, the method of procedure since September, 1917, and the evidence that has been brought forward here, are so contrary in my judgment to that idea, that the Dominion Marine Association instruct me to adhere to the opposition which it has consistently taken with regard to all these applications. The Dominion Marine Association, and its members, are actuated with a feeling of most intense loyalty to the Government of Canada, the Government of the United States, and to the Allied Governments, and are actuated with the greatest desire to do everything possible to help to win the war. But the Dominion Marine Association does feel that the principle at stake is one affecting their interests so deeply that it cannot sympathize with the argument advanced by Judge Koonce without the most positive proof that that argument, and that argument only, is the one that has led to the present application.

Having stated this, I want now to associate myself with what has been said by the Solicitor General for Canada with reference to the constitutional question. I say that with the greatest deference to the Commission, and with a desire that the Commission will always welcome me hereafter when I appear before them, and will believe that I trust absolutely in their judgment. I say that I wish to associate myself with the Solicitor General in his argument, because that argument goes to the very root of the matter. The Honourable the Solicitor General has quoted the words of the Ashburton Treaty which means so much to us, and which provides for the free and open use by all ships, vessels and boats of both nations to the channel immediately affected.

Mr. TAWNEY: You maintain that under the Treaty of January 11, 1909, this Commission would not have the power to approve of any work or any use or diversion of these boundary waters, under such conditions as would protect the rights and interests of navigation, irrespective of the Ashburton Treaty.

Mr. KING: Unhesitatingly so. I say that because I believe that the Ashburton Treaty was not reversed or superseded by the Treaty of 1909.

Mr. TAWNEY: Will you discuss whether it would not render the power of this Commission, under the Treaty of 1909, nugatory entirely.

Mr. KING: Not at all. I would say at once that I believe the two treaties run parallel. The Ashburton Treaty deals with certain definite channels clearly defined. That treaty has been considered and interpreted by the Supreme Court of Canada. The free and open use of the channels in the Detroit river was interpreted by that court. It is there held that we have no right to arrest an American vessel on the Canadian side of the river, because that channel was free and open to the navigation of that boat, just as much as it would have been close to the shore at Detroit. That question runs parallel to the 1909 treaty which gives your Commission broad, very broad, powers, far broader powers than you have yet attempted to use, with regard to the boundary waters, and with regard to all questions that may arise between the two Governments. But with regard to the channels which are definitely mentioned in the Ashburton Treaty, I say the Governments of the two countries have not the slightest intention of revoking or cutting down that which has been so definitely expressed between them in the Treaty of 1842. I confine my remarks with regard to constitutionality to the present question with reference to this particular channel, and I hope, sirs, that you will not in your mind, in



any way, permit that and what I say about it to affect the idea of your jurisdiction elsewhere, which is not immediately under consideration.

I think it would be a mistake on my part, I think I would be impugning the intelligence of the Commission, if I were to attempt to add to what Mr. Guthrie has said on that point. All that can be said has been very very well said by him, and I shall not attempt to add a word on that point.

I do wish it to be understood that the Dominion Marine Association desire at all times to feel a certain sense of security under the wing of the Dominion Government, just as the Lake Carriers Association of the United States feel sufficiently secure under the wing of the United States Government, not to appear here to-day at all. One of the reasons why they do not appear here is because of ignorance of the matter, because the St. Lawrence at this point is almost foreign territory to some of the people on the Upper Lakes. The president of the Lake Carriers Association, in a letter written to me a few days ago from Detroit, asked me what this was all about, and he has not had sufficient time to consider my reply to come to any definite conclusion.

My point immediately, is this: that we wish to feel the security of the protection of the Government, which is interested in shipping and navigation as we are, and we fear that, swept away by the eloquence of the argument of my friend, Judge Koonce, that possibly these interests may be even slightly in danger.

As to navigation, I wish to say a few words about that, because it particularly interests the people I represent, and may I call attention to the fact that in addition to the words already quoted in the Treaty of 1909, there are express words to be found in the document stating that navigation is paramount. And in that sense I feel it would be scarcely necessary to argue with the Commission as to the priority of the rights of the two parties coming before it. That involves some indication to the Commission of the fact that navigation is in some way interfered with. Well, at the very outset, that has been so covered by the evidence, and by what the Solicitor General has said, that again I hesitate to say a word. But let me give three or four definite figures. - In the course of this evidence, the taking of which has extended over a day and a half, two or three definite things stand out. In the first place, the applicants and when I say the applicants I do not mean the United States Government—the applicants before the Commission are the St. Lawrence River Power Company declared by themselves to be a subsidiary of the Aluminum Company of America. The applicants, in September last, procured in due course at Washington permission to do certain things. They had no permission to do part of what is before the Commission to-day. They did get certain permission, but they did do certain things, very serious things in the river, and they absolutely ignored the right of the Commission to say whether or no they should do these things before they were done. A channel has been dredged across the Dodges shoal which I see in evidence takes ten thousand, or eleven thousand, or twelve thousand cubic feet of water per second out of the river, more than flowed previously over that shoal, and enables it to pass either down the South Sault or into their power canal, when their dam is built. That was done without the consent of this Commission, and counsel for the company found it possible in

argument at Atlantic City, and I think again here, to suggest to the Commission that that did not necessarily come within their jurisdiction.

Mr. TAWNEY: The approval of this Commission was not required by the United States Government for that.

Mr. KING: I am speaking now of the applicants.

Mr. TAWNEY: The United States Government did not require the applicants to come before the Commission for approval for the doing of that about which you are now complaining.

Mr. KING: I do not agree that they must first be directed by the Government to come before you. It is their duty to come before you in the first instance.

Mr. TAWNEY: They would come before us under the procedure, without the approval of their Government.

Mr. KING: That was done, whether properly or improperly, without a reference to your Commission, which should have taken place, and a substantial quantity of water had already been diverted from the north side of the river. And it is in evidence that that has a direct effect on navigation, both on the level of the Cornwall canal and on the level of the Long Sault channel. That has been done since last September, and when the horse has been taken out of the stable—they do not perhaps lock the door themselves, but they come forward and ask the Commission to lock the door. Possibly that is not an exact analogy, but what they do is to come before the Commission and say: now that we have got the thing into such a position, now that navigation is prejudiced on the north side, we have to build a further structure, largely for our own benefit, but incidentally to overcome and compensate for the water we have already taken, and we would like you to agree that we should build that structure. And they say: we think it reasonable and, inasmuch as it would adjust matters, that you would give us your consent to put in this work, which would help us very much. And when they come to find the structure necessary, they find that they cannot build the dam without your consent, granted that you have jurisdiction.

Then this correspondence is entered into with the War Board of the United States. The situation has developed with regard to the need of aluminum, and letters are written to this tribunal suggesting that their judgment should be swayed in a certain direction, and ultimately counsel for the United States Government comes forward on the urgent call of war conditions, and inspired I am satisfied by the most patriotic motives, urging the need for aluminum; he comes forward and casts in his lot with the applicants and brings things of such force against us, that of course it is with great difficulty we advance the arguments we otherwise would advance freely and rightly before your Commission. The applicants say navigation is affected now, and they say: Let us put in the dam, which will compensate and send back the water we have taken. It is admitted that this dam will raise the water, nobody knows exactly to what extent, but the suggestion is that it may be several inches. We have had no opportunity to ascertain what the effect will be, and no data on that point have been before us. We cannot go to an engineer, on behalf of the association, and ask him to advise us on that point, for he has nothing on which to base an investigation, which in the case of the applicants has extended over a long period of time. That is the situation. We know that an indefinite unknown

increase is to take place, and once again we have to rely upon our Government for assistance in the matter.

But if the dam is built, one great outstanding fact faces us: A navigable channel of the river has been dammed, and I say, with particular reference to the remarks that fell from one or more members of the Commission when Mr. Guthrie was speaking, I say a navigable channel of the river will have been dammed, if permission is given, and I wish to interpret the word "navigable" as being internationally a stream which is open to be used by vessels of large draught or vessels of small draught, or vessels of any size whatever. I do not say that that stream must be capable of use up and down both ways, and I do not say that we must define the word "navigable" with regard to its present use. A great deal of water is going to run under the bridges of the St. Lawrence river before we are through with the St. Lawrence river. Tremendous changes are going to take place, and that word "navigable" must be interpreted with regard to the future, as well as with regard to the past and the present. No one knows to-day how we will define "navigable" in the future. That stream is navigable; of that there is no doubt. I had available witnesses to prove that quite readily, and just as we would have proved them by the mouths of the witnesses brought forward by the applicant. There is no question but that navigation by the three steamers mentioned by the first witness called by the applicant established my point. I added to these three steamers a vessel 180 feet long. That navigation, such as it was defined, is said to have ceased at a period after 27,000, 28,000 or 29,000 cubic feet per second of that water has been taken away and sent down to Massena. It has been suggested by this witness that navigation ceased simply because the tendency at present is towards building vessels of large size. There is no question about it that the withdrawal of one-half the water from the South Sault by the present applicants affected navigation, and that must be taken into the sum total of the effect now under consideration. There is no question whatever that this stream is being blocked. We need not discuss the meaning of the words "free and open to the ships, vessels, or boats of both countries," because so long as the proposition is to build a dam right across from side to side, so many feet from the top, that blocks navigation, and the suggestion of one Commissioner that possibly a sluiceway could be made through the centre, to allow a boat to shoot the chutes is not practicable, because there would not be sufficient water below into which to shoot. There is no need elaborating the point. A navigable channel is proposed to be dammed, and incidentally navigation interfered with.

May I say another word: The association I represent has time and again made representations at Ottawa which have endeavoured to avoid the selfish stand that nothing must be done on the river except in their interests. They have said: develop power if you can, the country needs power, which as a substitute for coal may save the situation to-day. We have said that in the past when the demands for coal were not so very pressing as they are to-day. We have said: develop power, but remember navigation comes first and power second, and we have asked that the development, if it takes place, shall take place not for the purpose of developing power and incidentally protecting navigation by corrective works, the management of which will lie in the hands of the men who control the power and whose selfish interest will interfere with the proper manage-



ment of these works—we have said: develop the river in the interests of navigation and power and protect navigation as it must be protected.

Once again to-day I lay before the Commission, that as the prayer of the Dominion Marine Association, if the development takes place it should take place on a large scale and not piecemeal development, haphazard here and there, wherever someone happens to ask for it. We ask that it be a rational and full development by the two countries, owned and controlled by the two countries, and developing incidentally such power as the countries need.

Mr. TAWNEY: Don't you think that the purpose of the High Contracting Parties under the Treaty of 1909 in clothing this Commission with all the powers it has clothed it with, was with the purpose and intention of developing these powers along the boundary waters, in so far as such development was consistent with the rights and interests of navigation?

Mr. KING: I think I can grant what you say there.

Mr. TAWNEY: And if there was any such thing as an international scheme of development contemplated, it was in contemplation before this Treaty was made. But before the Treaty no development of this power was possible because the rights and interests of the people on both sides, and of the two Governments, could not be ascertained except by diplomatic negotiations which were interminable and, therefore, ineffective. Now, to afford an opportunity for the development of individual power in both countries, consistent with the rights and interests of navigation, the High Contracting Parties created this Commission and clothed it with jurisdiction to award approval of proposed works, such works to be constructed in accordance with such conditions as were deemed necessary. And, this Commission was left to protect the rights and interests of the people of the two countries. Now, if you are to delay the development of individual power, then you defeat that purpose of the Treaty. Is not that the fact?

Mr. KING: I would like to agree with what you say with a reserve and with a correction. I shall deal with the correction first. You have made the statement that no private development was possible until this Treaty created this Commission. The facts show the contrary. Development at Massena took place before the Commission was created.

Mr. TAWNEY: With one exception, which is Niagara Falls, where has there been development on the boundary waters that affected the rights and interests of the people on the other side, unless it be at International Falls?

Mr. KING: I quoted Massena as an example.

Mr. TAWNEY: Where has there been an instance before the Treaty of development that affected the rights and interests of the people on the other side? There of course has been development in both countries, but except the cases I have mentioned I do not know of any development that affected the rights and interests of the people of the other country.

Mr. KING: Sault Ste. Marie had considerable development before the treaty. But, dealing with Massena again, is it not an admitted fact that the withdrawal of a considerable amount of water from the St. Lawrence river at Massena, prior to the treaty, substantially changed the level at the head of the Cornwall canal. It cannot be argued otherwise than that the water, which was turned into the Grasse river, and developed 36,000 horse-power, did affect the level.

Mr. TAWNEY: What the effect of that is I do not know, and one thing seems certain and that is, that the Canadian Government did not object to it.

Mr. MCCARTHY: The diversion is away below the mouth of the Cornwall canal. How could it affect the Cornwall canal?

Mr. KING: I take issue on that point. I think you had better study the chart.

Mr. MEREDITH: It is above it.

Mr. KING: I do not want to argue the question at all, I know it is above it.

Mr. TAWNEY: I am not taking issue with the testimony on any of these things, except as to the logic of your position, and the logic of the position of the Dominion Government, as set forth in its statement in response, with respect to delaying development of power that would in effect nullify or render nugatory the treaty under which this Commission is acting, so far as development of individual powers are concerned along the international boundary waters.

Mr. KING: There are a great number of cases in which the development might properly be considered by your Commission, cases in which a proper protection could be given, but with regard to the development of this section of the St. Lawrence river, I submit that navigation interests cannot properly be protected, and the terms of the treaty cannot be carried out, except by the adoption of some general scheme of development which will avoid the cross currents of different interests which are bound to get more and more complicated. I can cite a case which occurred when interests from all sides appeared before the Prime Minister of Canada with regard to the development farther down near the St. Lawrence canal, and the principal supporter of the Dominion Marine Association in opposition at that time was a rival power company which already owned the rights in the river and was objecting to further development by somebody else.

Mr. MIGNAULT: Mr. King, my difficulty is this, and perhaps you may come to my assistance: Granting that the general policy of development is desirable and would be better than what I might term individual development in certain phases, should we refuse our assent to the application of a private corporation or individual who desires to develop a particular water-power because in the future the Government may agree on its general scheme of development of the whole water-power? In other words, because there is a possibility that the Governments concerned—and I presume it would require the consent of at least two Federal Governments and probably of the State of New York on the one hand and the Province of Ontario on the other—may be in agreement with regard to the general development, should we until that agreement has been effected refuse our assent to the application of private individuals or private companies asking to develop a particular water-power?

Mr. KING: I realize the force of your question. It is a tremendously broad question and a very difficult one to answer. I feel with you, sir, it would be wrong to ask that no development whatever take place, but if development must take place, if the Governments of the two countries find themselves unable to do it in the right way, if the Government of one is almost ignorant of the conditions on the St. Lawrence, leaving that to the adjoining State Government to look after, nevertheless, that

development must take place in such a way that the interests declared to be paramount are protected, and I do not think that can be done unless the development takes place under absolute control of the Government.

That brings me to the final point that I had advanced, that if Mr. Guthrie's offer had been accepted by Mr. Koonce, if the Government of the United States had come to the Government of Canada and had said, "Help us out in this war issue," I would have nothing more to say. If the Governments of the two countries were dealing with it I am confident that the interests of navigation would be protected absolutely by the assumption of government control.

What we ask is that no work take place except such as will be the property of the Government and can be taken out after the war without compensation, without that nasty question which is bound to arise as to whether the immediate demand for navigation of the South Sault will justify the blowing out of the dam. I ask that the development be made by the two countries, with the most full and absolute control, rather than that something should be done by a private corporation whose sole interest—I should not say whose sole interest—but whose natural interest will be to develop the surplus of 111,000 horse-power immediately available and at their door to be withdrawn simply by the installation of an additional turbine plant at any time.

MR. POWELL: In respect to the construction that you place upon the Treaty of 1909; it is a very interesting point, but I would like to call your attention to a few points. Your argument is that the Treaty of 1909, in general terms, refers to these boundary waters, and by a principle of well-known construction a general statute or document in general terms will not control specific terms and specific provisions. That is the basis of your argument. Now, I call your attention to the fact that the Treaty of 1909 creates an entirely new group of subjects, and it calls that group boundary waters. It is an artificial use of the term because there are more than boundary waters included in it. I am referring now to Article I. Then it proceeds and in Article VIII says certain powers are vested in this Commission. Now, you ask us to say that boundary waters do not mean boundary waters, but only some boundary waters. That strikes me as going to the very root of this matter.

MR. KING: To a certain extent I do say that the Treaty of 1909 is confined to some boundary waters. But not exactly, sir, in the sense in which you use that word, for whether or not I agree exactly with what Mr. Guthrie said in his argument for Canada, my personal view is that you have the right to deal in a certain way with these channels around Long Sault island which are mentioned in the Ashburton Treaty, provided always that you see that those channels are kept free and open for the ships, vessels, and boats of both countries; and the applicant here says, "We do not propose to do anything of the kind; we are going to dam the South Sault."

MR. POWELL: What you say is exactly correct, if you base the whole thing on the Ashburton Treaty, but I think you are limiting too much the effect of the Treaty of 1909.

MR. KING: I hope the honourable commissioner did not intend to say that I place everything on the Ashburton Treaty.

MR. POWELL: No, but there is where you have to place it, in my opinion, to make an effective argument.

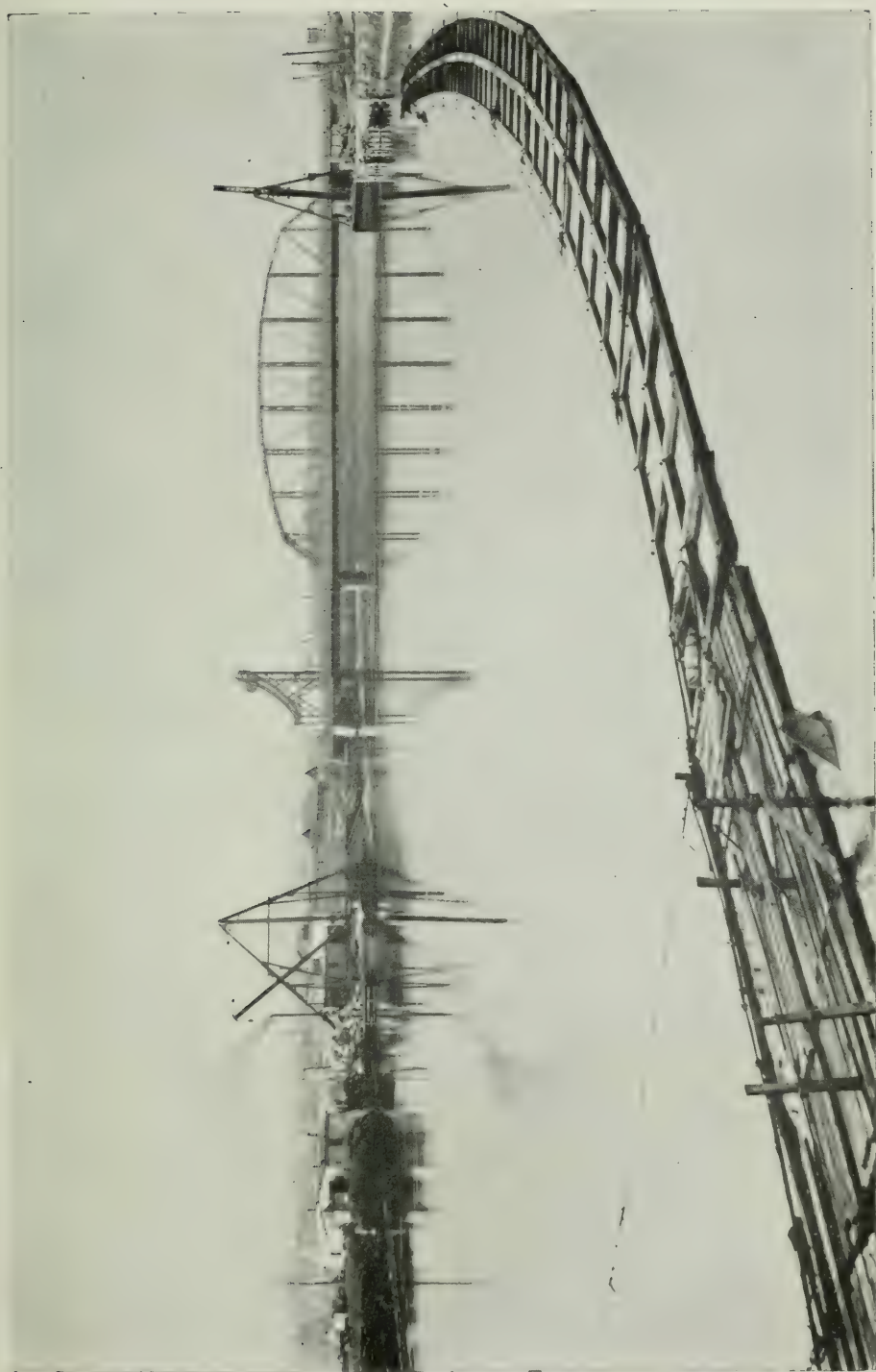


## ARGUMENT OF F. E. MEREDITH.

Mr. MEREDITH: Gentlemen, I have very few remarks to make. As I stated, I appear for the Harbour Commission of Montreal. They may seem at first glance to be rather far remote, but, as a matter of fact, as you well know, we are dependent on the water that comes from even as far as Chicago for the use of our port. I was first advised of this matter coming before you only a few days ago, and I did not know exactly the point at issue. My first regard was to make sure that the levels in the harbour of Montreal would not be affected. I do not pretend to be an engineer, or even a lawyer, but I feel fairly satisfied that the levels in the harbour of Montreal cannot be affected. But I paid close attention to the evidence given by the engineers, and it seems to me that the levels on the Canadian side immediately in the vicinity of Massena will be affected. It seems to me that the harbour of Montreal, which I think may be termed the national port of Canada, is interested in a further point, and that is that they have to watch, as far as they can, anything that is done in the upper reaches of the St. Lawrence river. Our view has always been that some day in the near future there will be a general development power scheme in the upper reaches of the river controlled by both Governments, which would safeguard the power schemes on both sides of the river, and in doing that would safeguard the water flow, and that is all that I as a representative of the Harbour Commission here am most concerned about.

Now, in this application I see an application by a private concern which, if granted, will mean a tremendous development entirely for a local concern on the American side, and which in the event of a general development scheme either for power or water purposes will have to be indemnified, because if that power scheme is carried out the water will back up, and if this application is granted, will drown these people and they will ask for very large indemnities. Be that as it may, the main question appears to be this—and I listened very carefully to Mr. Guthrie, and very carefully to Mr. King—the South Sault channel, I humbly submit, under the Ashburton Treaty was common to the navigation and use of both nations under Article VII. I do not intend to dilate on that. I do not pretend that I could add a word to what the Hon. Mr. Guthrie said on that point. He may be wrong. If he is wrong, I am wrong. But I would ask you gentlemen to read that Article carefully and come to a conclusion as to whether or not both nations are not equally entitled to the navigation of the south channel under that treaty. Then, if that is the case, the only question of fact, it seems to me, to come up is as to whether that south channel is navigable to-day.

I have had no witnesses here. As I said when I came into this matter, my interest seemed to be very remote, but following this matter I came to the conclusion that they were not so remote as I anticipated. The evidence, at all events, produced by the applicant itself—we have only the applicant's evidence—shows whether the navigation was useful or not. It is navigable. They took about five feet. You take the steamers down in our harbour here at Montreal. The largest passenger boats we have, carrying freight and passengers, draw about five or six feet. But do not let me get away from the point. The question is, does the evidence that these gen-







tllemen produced establish that the South Sault channel is capable of navigability. I submit that it is. They have to show you conclusively that it is not. If it is, then Canada is entitled to use that south channel for what it may be worth. It may not serve their purposes now, but it may be that the railways probably conduce to the disuse of the channel; the highway canal that is put in probably conduces to some extent to the disuse of the channel. But that is not the question. The question is a legal one and a question of fact. Is, as a matter of fact, the south channel of the Sault navigable or not? If it is navigable, under Article VII of the Ashburton Treaty, Canada is entitled to a joint use of it for purposes of navigation.

Mr. MIGNAULT: Does not the Ashburton Treaty assume that it is navigable by stipulation?

Mr. MEREDITH: Of course, it does. I quite agree with that, but I am simply taking Article VII and saying that under that Article we are entitled to the use of that south channel; not only are we entitled to the use of it under that Article, but under that Article it is held to be navigable. And the charter of this very company that is filed with you gentlemen says that they cannot interfere with navigation.

While I was away I received a copy of this application, and I arrived the morning you gentlemen sat for the first time. I read the application and, when I read it, with that sympathy that every human being has to have for the interests of all our Allies in the war, I immediately told my people, "This looks to me to be an absolute necessity because in the application itself it says that the supplies of aluminum are not sufficient for the Allies."

Now, you heard Mr. Davis on the witness stand, a most clever and able man, and I put to him the question with a view to finding out myself what was the real purpose for the erection of this submerged weir. I wanted to find out so that I could see my clients and ascertain their views as to whether they would further oppose or acquiesce in this demand. It was owing to his answer largely that I made up my mind that it was my duty to oppose the application. His answer was that they wished the submerged weir in order to supply their customers—and I say it subject to correction—independent of the war. In other words, it is not, as you would think, or any person seeing this application printed in the public press would think, an application for an increased power which is dependent on the submerged weir for purposes of the war only; it is for all time. When I saw that it seemed to me that the only thing to do was to find out whether they had a right to affect navigation. I take the stand of Mr. Guthrie, that if this application were made by the United States Government itself and not by a private concern, made to the Dominion of Canada, in so far as the Harbour Commissioners are concerned, they will gladly join and offer no opposition during the pendency of the war, provided always that they may be satisfied that the two Governments will have control of that submerged weir and can remove it as they see fit.

I do not think it is necessary to refer to the two allegations in the petition which attracted my attention in the first instance, but I have heard it stated, and I believe it is the case, that the public absolutely believe by reason of this application that it is only because of the needs of the war and because it is impossible to supply aluminum to the Allies during the war. That is not the case.

As to the Treaty of 1910, I do not intend to deal with that more than to say that as I read that treaty it seems to me that it gives tremendous powers, and I say that with the greatest respect to this Commission. I do not read into that Treaty of 1910 the right of the Commission to deal with the waters of both countries in such a way as will interfere with navigation in the south branch or in any river which is mentioned in the treaty. I entirely agree with Commissioner Powell when he seemed to think, according to his remarks given from the bench, that they might possibly deal with this application and grant it in so far as it did not interfere with navigation. The proper way would be to have the applicant company change their application. But whatever may happen, I ask, and submit, and really pray, if this Commission decides to grant this prayer that in all events it only be for the period of the war, and that the supply of aluminum produced by the excess of power which they will get will be offered to the Allied Powers before it is offered to the ordinary consumer.

MR. POWELL: Mr. Meredith, Article VIII of the Treaty of 1909 states that:—

“In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing therefrom or in waters below the boundary in rivers flowing across the boundary, the commission shall require, as a condition of its approval thereof, that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby.”

And previous to that, in the same article, is the following:—

“The commission in its discretion may make its approval in any case conditional upon the construction of remedial or protective works to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision, approved by the commission, be made for the protection and indemnity against injury of any interest on either side of the boundary.”

So it would not require any amendment. We could approve the application and attach to it such conditions as we might see fit.

MR. MEREDITH: I know the matter will be entirely safe in the Commission's hands, but I thought it my duty to say what I did say. I was expected to do so by my clients.

#### STATEMENT OF JAMES WHITE.

MR. WHITE: Mr. Chairman and members of the International Joint Commission,—The Commission of Conservation was organized in January, 1910. One of the first matters which engaged its attention was the application of the so-called Long Sault Company. As a result of this matter of the development of the power in the Long Sault and at other points along the St. Lawrence, it has engaged the attention of the Commission ever since its very inception. I do not propose to inflict a lengthy address

upon you. I would like simply to read the few words of a brief or protest which I will hand in. Before reading it, however, I wish to say that I am here on behalf of the Commission of Conservation composed of the following members:—

Sir Clifford Sifton, K.C.M.G., Chairman;  
 Dr. Howard Murray, Dean, Dalhousie University, Halifax;  
 Dr. Cecil C. Jones, Chancellor, University of New Brunswick, Fredericton;  
 Mr. William B. Snowball, Chatham, N.B.;  
 Hon. Henri S. Beland, M.P., M.D., St. Joseph-de-Beauce, Que.;  
 Dr. Frank D. Adams, Dean of Applied Science, McGill University, Montreal;  
 Mgr. Charles P. Choquette, Member of Faculty, Laval University, Quebec;  
 Mr. Edward Gohier, St. Laurent, Que.;  
 Mr. W. F. Tye, Past President, Canadian Society of Civil Engineers, Montreal;  
 Dr. James W. Robertson, C.M.G., Ottawa, Ont.;  
 Hon. Senator William Cameron Edwards, Ottawa, Ont.;  
 Mr. Charles A. McCool, Pembroke, Ont.;  
 Sir Edmund B. Osler, M.P., Toronto, Ont.;  
 Mr. John F. Mackay, Toronto, Ont.;  
 Dr. B. E. Fernow, Dean of Forestry, University of Toronto;  
 Dr. George Bryce, University of Manitoba, Winnipeg, Man.;  
 Dr. William J. Rutherford, Dean of Agriculture, University of Saskatchewan, Saskatoon;  
 Dr. Henry M. Tory, President, University of Alberta, Edmonton;  
 Mr. John Passe Babcock, Assistant Commissioner, Department of Fisheries, British Columbia;  
 Hon. T. A. Crerar, Minister of Agriculture, Ottawa;  
 Hon. Arthur Meighen, Minister of the Interior, Ottawa;  
 Hon. Martin Burrell, Minister of Mines, Ottawa;  
 Hon. Aubin E. Arsenault, Premier, Prince Edward Island, Charlottetown;  
 Hon. Orlando T. Daniels, Attorney General, Nova Scotia, Halifax;  
 Hon. E. A. Smith, Minister of Lands and Mines, New Brunswick;  
 Hon. Jules Alard, Minister of Lands and Forests, Quebec;  
 Hon. G. H. Ferguson, Minister of Lands, Forests and Mines, Ontario;  
 Hon. Thomas H. Johnson, Attorney General, Manitoba;  
 Hon. George W. Brown, Regina, Sask.;  
 Hon. Charles Stewart, Premier, Alberta;  
 Hon. T. D. Pattullo, Minister of Lands, British Columbia;

I have read these names in order that the members of the Commission may be advised of the membership of the Commission of Conservation.

I have the honour to present herewith the case of the Commission of Conservation, Canada, in regard to the application of the St. Lawrence River Power Company now before you. The proceeding is understood to relate to the application of the St. Lawrence River Power Company for approval of Permit No. 38786 64, granted September 10, 1917, by the



Secretary of War of the United States to extend to Long Sault island, by means of a submerged weir, the jetty or deflecting dike in the south channel of the St. Lawrence river at the mouth of its power canal at Massena, N.Y.

Respecting power development on the St. Lawrence river, the attitude of the Commission of Conservation, Canada, was enunciated by the Chairman, Sir Clifford Sifton, at his annual address to the Commission, November 27, 1917. Sir Clifford said:—

“A very large capacity for the development of power exists upon the St. Lawrence. There is a considerable development in the neighbourhood of Montreal, but the greater portion of the power still remains undeveloped. Attempts are constantly being made to fatally complicate the position with respect to St. Lawrence power by securing the privilege of private development. . . . .

“The United States Government is not interested in the corporations that are endeavouring to get possession of the St. Lawrence powers from the other side. Neither is the Canadian Government interested in the fortunes of the gentlemen who are promoting their project on the Canadian side. They are very few in number, and their interests are confined entirely to themselves. What the United States Government and the Canadian Government alike are interested in is that there should be a fair division of this (St. Lawrence) power, that it should be developed in such a way that the neighbouring and tributary population should have the use of it upon fair terms.”

The notice of the hearing at Atlantic City, August 12-13, 1918, indicated that the application of the St. Lawrence River Power Company was an application by a private company for the permission to place dams or other structures in a channel of the St. Lawrence river. The Commission of Conservation was prepared to offer the most resolute opposition to said application.

At the hearing at Atlantic City, however, Judge George W. Koonce stated that he was authorized to represent the Government of the United States and to ask for approval of the permit requested by the St. Lawrence River Power Company. Judge Koonce further stated that the dam the applicant company proposed to construct was “intended to augment the output of aluminum” which is required in connection with the prosecution of the war; that ice troubles last winter decreased the production of the Massena plant of the applicant company by about six million pounds or 17 per cent; that the proposed construction will obviate their ice difficulties and thus enable the applicant company to operate its “aluminum plant with the highest efficiency.”

In view of the foregoing, the Commission of Conservation recommend:

(1) That immediate investigation be made to ascertain whether electric energy to supplement the shortage at Massena can be procured in Canada or in the United States.

(2) That, if such electric energy cannot be procured in Canada or in the United States, the construction of the projected dam or submerged weir, be undertaken at the earliest possible date, by the

Governments of Canada and of the United States, defraying the cost of the same in equal moieties, said cost having been estimated at \$125,000 as appears from the statement by counsel of the applicant company at the hearing at Atlantic City, August 12-13, 1918.

In no event should any proprietary rights be conceded to the St. Lawrence River Power Company or to any other private interests. The undertaking on the part of the Governments of Canada and the United States whereby the High Contracting Parties may construct the proposed submerged weir and all appurtenant work should also include a condition that the dam be removed after the war, provided either the United States or Canada so demand.

That is all I have to say, except to indicate that, as stated in the memorandum, if the application had not been made to increase the output of aluminum for war purposes, the Commission of Conservation would have been prepared to offer the most resolute opposition. The Commission of Conservation, in view of the special circumstances, has recommended that the application be granted under the conditions set forth in the memorandum.

Mr. MIGNAULT: It does not seem possible, Mr. White, that we can grant the application on the condition that the work be built not by the company but by the two Governments. We have no power to impose on the two Governments the construction of this work. It would seem to me a condition that would nullify any authorization granted by us.

Mr. WHITE: May I suggest, Mr. Mignault, that it could be owned by the two Governments? I thought that I made that quite clear.

Mr. MIGNAULT: I thought your point was that it should be granted on condition that the work be built by the two Governments.

Mr. WHITE: That is my misfortune, then, I am afraid. We are distinctly advocating that any works such as this or any other works that are put in the St. Lawrence river shall be put in by the two Governments. That has been the position of the Commission of Conservation ever since its inception in 1910.

Mr. MIGNAULT: I misunderstood you, then. You do not advocate that if the Commission grants approval it should be on condition that the ownership of the structure be in the two Governments?

Mr. WHITE: No; the contention of the Commission of Conservation is that Judge Koonce, appearing on behalf of the Government of the United States, has stated that this aluminum was necessary, and the Commission of Conservation recommends that in such case these works be constructed in the St. Lawrence river at the joint cost of the two Governments and with the option of their removal after the war upon the demand of either Government, but in no case should any priority rights be conceded to the applicant.

Mr. MIGNAULT: That is equivalent to saying that the two Governments should construct them.

Mr. WHITE: Yes, sir.

Mr. POWELL: Did the Commission of Conservation hold a meeting and consider this matter?

Mr. WHITE: Inasmuch as the formal application of the applicant company for a hearing was received by us the day after the hearing was held

at Atlantic City, I think I need hardly point out that it was absolutely impossible.

Mr. POWELL: But, as a matter of fact, there was no meeting of the Commission to consider this matter?

Mr. WHITE: There was none.

Mr. POWELL: Taking that document as it is you would almost infer that it is the word of the Commission of Conservation.

Mr. WHITE: The document is signed by the Acting Chairman.

Mr. POWELL: Who is the chairman?

Mr. WHITE: Sir Clifford Sifton. I might say further that the chairman himself is in England. We communicated with him by cable, and the memorandum as presented is the memorandum that met with his approval, and is in accordance with his instructions. It was physically impossible, under the circumstances under which this hearing and the previous hearing were held, to get the Commission of Conservation together.

Mr. POWELL: Mr. White, you are an engineer of long standing. I just want to ask your opinion on one thing. It does strike me that the applicant in this case, if it gets what it is seeking, is no better off than nothing at all. I am going to call your attention to what is running in my mind. If the applicant in this case succeeds in getting what it has applied for, it is no better off than if it never applied at all, for this reason: It is just as necessary to get the approval of this Commission to the change up above in respect to this flat as it is to the diversion of the water or the obstruction caused by the building of the dam, and to legalize one without legalizing the other is work that results in nothing. It strikes me that the applicant in this case should amend its application and include the other two things, because if it is necessary to get the approval of the dam it is also necessary to get the approval for the excavation. They stand or fall together. Now, the question I want to call your attention to is this: In your opinion would the excavation of the flat above have the effect *per se* of lowering the waters on the Canadian side?

Mr. WHITE: If you only want my personal opinion, I would say that the evidence which has been given before the Commission yesterday and to-day demonstrates that.

Mr. POWELL: Then, it would be necessary to have the approval of this Commission?

Mr. WHITE: Certainly. I did not attempt to take up those points, Mr. Powell, because I thought that they had been more intimately dealt with by those who preceded me. I might have said that the Commission of Conservation holds that it is an absolutely necessary condition that the High Contracting Parties shall first have agreed to the erection of any structures whatsoever in the South Sault channel, standing on the terms of the Ashburton Treaty.

Mr. POWELL: That is another matter. What I have said does not affect this application.

Mr. WHITE: Pardon me, I will say further that in our opinion the proposals to put in cribs thirty feet in connection with this ice jam would be an infraction of the Ashburton Treaty. The applicant company had no right to do that dredging on Dodges shoal, and they would have no right to put such cribs in the South Sault channel.



Mr. POWELL: That would be a matter of opinion. My opinion offhand as a lawyer is that they had a perfect right to put those piers in if they were not a substantial obstruction to navigation, just as much as I would have to get lands from the Government that owned the subsoil of a river and put a pier out for the accommodation of vessels to bring my goods. The whole question, when you are looking at the public, is whether or not it is a nuisance. I think you are off your ground if you are objecting to those piers being put in, because to my mind they have a perfect right to put them in, that is, with our approval.

Mr. WHITE: I fail to see how you can reconcile that stand with the fact that the Ashburton Treaty provides that the channel should be kept free and open.

Mr. POWELL: But those words "free and open" have a well-settled meaning, and the treaty is not contravened by doing that any more than if you erected a pier and put a lighthouse on it for purposes of navigation.

Mr. WHITE: No; a lighthouse is erected for the purpose of assisting navigation.

Mr. MIGNAULT: In other words, the constructing of a pier is an incident of the right of navigation. So what use would be the right of navigation without the right of access to the land, and if the right of access to the land can only be secured through the construction of a pier surely the person who enjoys the privilege of navigation would have the privilege of constructing a pier.

Mr. WHITE: I think, Mr. Mignault, that there is a slight misunderstanding as to the meaning of the word "pier." I do not think there can be any objection to the erection of a pier in the sense of a wharf, but a pier to be what you might call a landing place for a boom is in entirely a different category.

Mr. MIGNAULT: Yes; there may be such a pier as would be an obstruction to navigation and not an incident to the exercise of the rights of navigation.

Mr. WHITE: Yes; I do not think any one should pretend that there should be any verbal hairsplitting over the construction of a wharf, but a pier that is an obstruction to navigation is of an entirely different character.

Mr. MAGRATH: Gentlemen, have we exhausted the opposition to this application? If so, who will proceed now? Mr. Koonce, do you wish to be heard now?

#### ARGUMENT OF GEORGE W. KOONCE.

Mr. KOONCE: Mr. Chairman, I shall occupy only a few moments of your time. I appreciate the courtesy of counsel for the Canadian interests in limiting this thing simply to the question of whether or not the Commission has jurisdiction. They introduced no evidence and made no arguments, so far as I could see, that would cause you to think that these constructions that it is proposed to put in the river are in any sense a material injury to the interests of Canada or to any of its inhabitants.

For the purpose, though, of setting the department right, and it seems that nearly all of the learned gentlemen have attempted to——

Mr. KEEFER: What did you say that we have waived?

Mr. KOONCE: Everything but the question of jurisdiction.

Mr. KEEFER: No. The plea in bar is the first plea we make. We are not waiving anything.

Mr. KOONCE: I suppose you would have gone into the merits of the thing if you had any objection to it other than the fact that you question the jurisdiction of the Commission. I cannot conceive that the great Government of Canada that is so closely allied with us in this contest, assuming good faith on our part, would interpose any technical objection to this proposition.

Mr. KEEFER: Certainly not.

Mr. KOONCE: And, therefore, that your only doubt is as to the jurisdiction of the Commission to deal with it. That, I assume, to be your position. Now, just briefly I will state the action that the department took in this matter. After the declaration of war, when we began to marshal our forces, we organized what is known as a Council of National Defence. That Council of National Defence is a very large body, and it is divided into a number of committees, among which is a committee known as the Federal Water-power Committee. That committee deals entirely with the question of co-ordinating, improving, and accelerating the development of water-power for the purpose of manufacturing munitions and other war materials needed in this conflict.

This application of the Aluminium Company of America is one of the results of the formation of that committee. Aluminium was one of the things that we needed. They found that there was likely to be a shortage. Every effort was made to speed up and increase the production. This power plant at Massena was known to be in operation. It had been in operation for twenty years unobjected to, so far as we know, by anybody on account of navigation, the use of waters, or anything else. So far as we know, it has never been objected to by anybody in either country. It was found that the production of aluminum at this place could be increased in a certain way. To do that this company, proceeding along the lines laid down in the federal laws, proposed these three things and made application to the War Department for the necessary authority. That was all made in one application. One was the construction of a submerged weir leading across the South channel near the entrance to the canal for the purpose of deflecting the water; a second was the dredging of a channel across what is known as Dodge's shoal; and the third was the construction of an ice-breaker or wing dam composed of piers and movable structures between for the purpose of deflecting the ice down the Big Sny and thence down the main channel.

Mr. TAWNEY: Do I understand you to say that these three objects were all set forth in the original application?

Mr. KOONCE: Yes; they were all applied for by the company at once. They were considered as three things necessary to effect the object they had in view. They desired to remove the ice difficulties at that place in order that they could continue the full winter operation of their plant. They were applied for at one time.

Mr. MIGNAULT: In one application?

Mr. KOONCE: In one application. The company had nothing to do with the separation of them. We have always been careful to comply with the provisions of this treaty, and energetic in trying to have its provisions

properly observed. We have done all we could in that direction. Every case that has come before me—and I have handled nearly every case in the War Department for the last twenty-five years affecting the navigable waters that involves any questions under this treaty—has been given the most careful consideration. Our engineers were called upon for a report upon this proposition, and from their report we determined that the dredging of this channel would not injuriously or materially affect any international interest, and that this wing dam or ice-breaker would not injuriously interfere with or affect the levels of the waters.

When it came to this submerged weir we were in doubt. Our conclusion was that it might affect the level of the water on the Canadian side, and in some measure interfere with the canal that the Canadians had built for commerce on that side.

Mr. TAWNEY: Did the War Department conclude from the report of the engineers that the dredging would not affect the level of the water above the shoals and, therefore, not affect navigation, independent of whether there was or was not compensation by the construction of the weir?

Mr. KOONCE: Well, we did not think that even by itself it would have any material affect.

Mr. POWELL: I do not see how it is possible for reasonable men to find that.

Mr. KOONCE: The evidence shows that there might be a change of a couple of inches. Of course, I have not time now to go into the evidence in regard to the levels of the St. Lawrence river, but you gentlemen are gentlemen of judgment and intelligence and you certainly can see that two inches could affect navigation very slightly.

Mr. KING: The evidence went further than that.

Mr. KOONCE: That was the evidence given by the engineers of the power company; they thought it might be as much as two inches.

Mr. TAWNEY: It was thoroughly investigated by the engineers of the War Department?

Mr. KOONCE: It was. Our engineers went over all the estimates and data and we required full data to be submitted by the company. And that is the conclusion that we arrived at, and, as Commissioner Magrath stated at the Atlantic City meeting, whenever the engineers of either country reach a conclusion in these engineering matters, such conclusion should be accepted unless shown to be erroneous. Our reason for separating the two was this: We decided that the submerged weir was the construction that should come before you, and we know that the dredging of the channel would take considerable time. We separated the two so they could go ahead with the dredging in advance, which they did immediately. They commenced that work on the first of October. In other words, one of the permits, in our judgment, required your approval, and the other did not. If we were in error about it it was simply an error of judgment; it was not with any intention of violating the treaty.

Mr. MIGNAULT: Assuming that the weir is never built, would not the dredging affect the level of the water on the other side of the line?

Mr. KOONCE: Well, we did not assume that the weir would not be built.

Mr. POWELL: You simply took the resultant of all the effects instead of taking them individually?



Mr. KOONCE: Yes; and we did not take what the power company said about it; we investigated it and made the calculations ourselves, and that was the conclusion we arrived at. I would like to say that the icebreaker, with these thirty-foot piers, which some seem to make objection to, would in themselves be in the nature of compensation to some extent for this dredging. I would like you to take that into consideration.

Mr. MIGNAULT: It would put us in this position, unless we authorized the construction of the submerged weir the level of the water on the other side of the line would be affected by the dredging.

Mr. KOONCE: I will simply say in that connection that the channel has been dredged. Nobody has alleged that there has been any injury at all. I am informed that the dredged channel would affect the levels in the canal only at times when the river was at an extreme low stage, and this extreme low stage has occurred only during the navigation season a very few times in the last twenty-five years. Navigation in the canal has, I understand, a depth of water of fourteen feet nine inches, and they need only fourteen feet for navigation purposes. I make this statement simply to show that we have acted in perfectly good faith in this matter, and that we have been actuated not by a desire to give the Aluminum Company of America any additional power or any additional water.

The primary object of this project is not to increase the rate of withdrawal of water, but simply to remove these ice difficulties. We came to the conclusion that the project that they submitted to us would be successful in that direction.

Mr. POWELL: But this result follows: although the result of all the effects would be an elevation of the water in the international channel of two inches, yet this company will be drawing out over 6,000 second-feet more than they are at the present time.

Mr. KOONCE: But they cannot divert water out of the river to the detriment of the level of the river without the approval of the Government any more than they can construct this weir. They have to get that approval. They do not propose to take any more water, and if they did the question would have to come before you.

The company has already dredged the channel. If injury results, I should very much regret it. If this submerged weir should not be built I have no doubt that the War Department will do whatever is necessary to remedy any injurious effect caused by this dredged channel.

After these works were started the emergency became more acute. A further investigation showed us that instead of allowing the company until December 31, 1919, as provided in the permit, it was necessary to speed up these things so as to get the best results at the earliest possible moment, so they were told to put this matter before you at once and the department found that in order to get these works constructed, and in order to get the benefit of them this winter it must have your immediate action. In transmitting the application to the Secretary of State with the recommendation that it be referred to you, the Secretary of War distinctly states that "It is important to the military interests of the nation that this matter be given immediate consideration." That is all that it is necessary to say in regard to the fact that you have not had the usual thirty or sixty days' notice.

I suppose you want me to say something about the question of jurisdiction which has been raised by the Canadian counsel. The learned counsel for the Dominion Government has gone back to the Webster-Ashburton Treaty of 1842. Article VII of that treaty provides that the channels in the St. Lawrence river, on both sides of the Long Sault islands, and of Barnhart island, shall be equally free and open to the ships, vessels, and boats of both parties. While at Atlantic City I made offhand some remarks about the proper interpretation of the word "equally." I did not rely upon that at all, and I do not think it is necessary to enter into any serious or extended discussion of the meaning of the word. But I would like to call your attention to the fact that apparently at the time this treaty was made those who drafted it seemingly considered that there was no navigation along this part of the St. Lawrence river. You will see what they say in Article III, which relates to the St. John river, which is in Commissioner Powell's part of the country. It is stated in Article III that "the navigation of the said river shall be free and open to both parties, and shall in no way be obstructed by either"; recognizing the fact that there was a navigation that they were providing for.

Then refer to the subsequent treaty of 1871. That treaty, referring to the river St. Lawrence, from the 45th parallel of north latitude, where it ceases to form the boundary between the two countries, states that it "shall forever remain free and open for the purposes of commerce".

The same treaty says that the navigation of the rivers Yukon, Porcupine and Stikine, ascending and descending, from, to, and into the sea, shall forever remain free and open for the purposes of commerce to the subjects of Her Britannic Majesty and to the citizens of the United States.

Article XXVIII of the same treaty states that the navigation of lake Michigan shall also, for the term of years mentioned in article XXXIII of the treaty, be free and open for the purposes of commerce to the subjects of Her Britannic Majesty.

All that is said in this Ashburton Treaty is that the channels shall be free and open to the vessels, ships, and boats of both parties, which indicates to me that they recognized at that time that there was no useful navigation in these rivers, and that they were providing for a possible or potential navigation, for instance, something like the Cornwall canal on the Canadian side and possibly some similar canal on the American side; in other words, those channels should remain free and open for the ships if those ships materialized and navigation was to be provided for. They do not use the word "navigation" or the word "commerce."

Mr. MIGNAULT: They say that these two channels shall be equally free and open to the ships, vessels, and boats of both parties.

Mr. KOONCE: But that may be for the future.

Mr. MIGNAULT: Would not that imply that it was done for the rights of navigation?

Mr. KOONCE: Yes; provided navigation would be made possible. Using the word "navigation" for commerce in connection with all these streams where navigation existed, and the omission of those words in relation to the St. Lawrence, may have been due to the fact that they knew that there was no commerce and no navigation of these streams, but there was a potential or a possible navigation which has since been created by the Cornwall canal.

Mr. TAWNEY: Article I of the treaty of January 11, 1909, is still more significant, if you are discussing that. It says that the High Contracting Parties agree that the navigation of all navigable waters shall forever continue free and open.

Mr. KOONCE: Yes; that is in line with all the language of all the treaties where they mean to provide for present navigation.

Mr. MIGNAULT: Mr. Koonce, the evidence here is merely that the south channel is navigable. It has not been used much for navigation, but it is navigable.

Mr. KOONCE: We will come to that later. Treaties are nothing more than contracts between nations making them. At the time this Webster-Ashburton Treaty was made it was probably wise to make this provision for free and open channels. In those days probably the only access people in the interior had to the outside world was down the natural rivers. They could float down the navigable portion and when they came to impassable rapids take the boats up, carry them around, and place them in the river again and proceed to their destination.

But a contract between nations is always subject to modification. The Webster-Ashburton Treaty was in full force and effect until 1909, when the same High Contracting Parties made a new treaty. The Treaty of 1909 essentially modifies the Webster-Ashburton Treaty. The reasons for these modifications were due to disputes and controversies that arose over the use of boundary waters, and the High Contracting Parties proceeded to formulate a treaty that was intended to cover boundary waters and does effectually cover such waters. And, so far as the use and diversion of boundary waters are concerned, the Webster-Ashburton Treaty has now no binding force. The Treaty of 1909 was concluded between the High Contracting Parties for the adjustment and settlement of all questions that might hereafter arise between the United States and the Dominion of Canada, involving the rights, obligations, or interests of either in relation to the other, along the common frontier. That treaty defines boundary waters as the waters from main shore to main shore of the lakes, rivers, and connecting highways along which the international boundary runs, including the bays, arms and inlets thereof. The St. Lawrence river at the point where these works are being constructed, covered by this application, is a boundary stream between the United States and Canada, under the definition of this treaty, and being a boundary stream it necessarily comes within the purview of that treaty.

Mr. TAWNEY: Have you considered the preliminary article in that connection?

Mr. KOONCE: That is what I am quoting from, but I put it more or less in my own language.

Mr. TAWNEY: You are reading from the preamble; I was referring to the definition of boundary waters in the preliminary article.

Mr. KOONCE: I have read that.

Mr. TAWNEY: It says that for the purposes of this treaty that boundary waters are defined to be waters from main shore to main shore of the lakes and rivers.

Mr. KOONCE: I have just read that and I observe that the St. Lawrence river, the Long Sault channel, and the South Sault channel, and all the bays and arms of it, come within that definition of boundary waters. There



is no question that you cannot help coming to the conclusion that this treaty was intended to supersede all other treaties, so far as boundary waters are concerned, and so far as questions connected with the use and obstruction of boundary waters are concerned. Of course the Webster-Ashburton Treaty remains in force, except where these waters constitute a common frontier between the United States and Canada. Article III provides that in addition to the uses, obstructions and diversions heretofore permitted, or hereafter provided for by special agreement between the parties hereto, no further or other uses, or obstructions, or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada, within their respective jurisdictions, and with the approval of a joint commission, to be known as the International Joint Commission. And, article VIII confers upon you jurisdiction in all cases arising under article III.

Mr. POWELL: It is stronger than that.

Mr. KOONCE: Article VIII says that the "International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use, or obstruction, or diversion of the waters with respect to which under articles III and IV of this treaty the approval of this Commission is required."

Mr. POWELL: It not only gives the power to approve but it confers on us general jurisdiction.

Mr. KOONCE: Yes. The only point which our friends opposite have made is that this treaty specially excepts navigable waters. Article I provides that the High Contracting Parties agree that the navigation of all navigable boundary waters—and as Mr. Tawney has pointed out this article further goes to confirm the view that the Webster-Ashburton Treaty is superseded in that respect—that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants, and to the ships, vessels, and boats of both countries equally. Note the words "for the purposes of commerce." The High Contracting Parties, the eminent Commissioners who made the treaty, were well aware—

Mr. POWELL: It says the ships, vessels, and boats.

Mr. KOONCE: It all goes back to the ships, vessels, and boats for the purpose of commerce.

Mr. POWELL: There are two classes there, and the preposition "to" connects it with the word "commerce."

Mr. KOONCE: It all goes back to the word "commerce" and is intended for commerce.

Mr. MIGNAULT: Do you argue that providing it be for the purpose of commerce these channels could be entirely closed?

Mr. KOONCE: If it be entirely for the purpose of commerce, the treaty says it shall not be closed, and you have no jurisdiction. Possibly neither the north channel nor the south channel in this case are navigable within the meaning of the words in the treaty.

Mr. POWELL: So far as I am concerned, I do not agree with that. Even the driving of logs has been held in the courts to be navigation.

Mr. KOONCE: If there are no more logs to drive, there is no more commerce in that line.

Mr. POWELL: Navigation does not necessarily mean ships.

Mr. KOONCE: Here is the definition: A stream is navigable within the meaning of this treaty when it is navigable in fact, and it is navigable in fact when in its natural condition, and without the aid of artificial means, it affords a channel for useful commerce of a substantial and permanent character, conducted in the customary modes of trade and travel on water. A theoretical or potential navigability, or one that is temporary, precarious, and unprofitable, is not sufficient.

Mr. POWELL: What is that definition from?

Mr. KOONCE: It is a composite of the best definitions I could find. In other words, the navigability of a stream for the purpose of bringing it within the terms of this treaty depends upon this fact, whether the river in its natural state is such that it affords a channel for useful commerce for the passage and re-passage of boats engaged in transportation of the commodities of the country. Under that definition I state there is no evidence before you to show, and nothing to indicate, that the South Sault channel ever was or is now a channel for any useful commerce. Nor is the north channel, and the Canadian Government recognized it years ago when they built the Cornwall canal. We may recognize the fact that there is a potential navigability on this stream, and may build a canal on the south side, but until that time comes, until these obstructions which exist in their natural state have been removed by artificial means, the river remains as it is in a state of nature, and it is not a channel for any useful commerce.

I appreciate very much the presence of our friend representing the State of New York, and the issue he has put before you, but I am sorry that I cannot agree with the learned counsel from my own country. The learned counsel for the State of New York appeared before you yesterday and made his statement, and his appearance here is very desirable, and he made a very creditable presentation of his side of the case. But I submit that so far as the State of New York is concerned, this is a domestic question between the State of New York and the Aluminum Company, and that whatever rights the State of New York have to the soil on which the construction is to be built, is a question that has to be adjudicated and settled by the departments of the Government of the United States, either the executive or the judicial departments, and that the State of New York has its remedy for any invasion of its property rights that may be occasioned by this structure. I submit, therefore, that it is unnecessary for the International Joint Commission to consider whether the Aluminum Company of America owns the soil in the St. Lawrence river upon which they propose to build this weir, or whether the State of New York owns it. If the State of New York owns it, the State of New York can prevent them from laying a single stone on it, and no decision you could reach could confer on the State of New York any authority they do not now have under the laws of the United States.

On the question of conservation, which has been so ably presented by Mr. King, and also by my friend Mr. Keefer, I have a word to say. They have spoken about the necessity of co-ordinating resources, and of the two Governments getting into an agreement and developing the water-powers as an international affair. That is a very creditable proposition, and I have no criticism to make of it.

Mr. TAWNEY: Are you aware of the fact that the Government of the United States, four years ago, submitted to the Dominion of Canada a series of questions in the form of a reference to be submitted to this Commission, after investigation of all these questions of power and navigation on this watershed, and also on the upper end of the lakes, and that no action has yet been taken on it by the Dominion Government?

Mr. KOONCE: I did not know that.

Mr. TAWNEY: In June, 1914, a reference was made, recommending it.

Mr. KOONCE: Mr. Keefer has repeatedly said: why don't you bring this matter to the attention of the Dominion Government, without any reference to the International Joint Commission? Mr. Keefer has not read this treaty very carefully, if he believes in such a thing as that.

Mr. POWELL: That would be only a matter of courtesy between you and the Dominion Government; that has nothing to do with us.

Mr. KOONCE: However desirous we might be to communicate with them and to reach an agreement, we could not do it. Article III of the treaty refers to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto. I suppose he had reference to that provision when he said that we could agree on this thing. But, if he will refer to article XIII, he will see a definition of special agreement. Article XIII says:—

“In all cases where special agreements between the High Contracting Parties hereto are referred to in the foregoing articles, such agreements are understood and intended to include not only direct agreements between the High Contracting Parties, but also any mutual arrangement between the United States and the Dominion of Canada expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of the Dominion.”

In other words, to reach any agreement between the United States and the Dominion of Canada on this question, we would have to have an Act of Congress over there, and an Act of the Parliament of Canada over here, and that would take an interminable time.

Mr. KEEFER: So far as we are concerned, we have a celebrated measure called the War Measures Act, by which, by Order in Council, we can do almost anything in twenty-four hours.

Mr. KOONCE: We have no such legislation in our country, and it would take a very long time to bring it about.

Mr. KEEFER: We could do it in twenty-four hours.

Mr. KOONCE: It would be impossible for us to arrange a matter of that kind by legislation, and the only other alternative would be a new treaty. Conservation of natural resources is a high-sounding phrase, and an attractive phrase, and it is a very good doctrine, but I submit that in this time of stress and war, “conservation” is not the proper word—“preservation” is the thing that interests us now: self-preservation, national preservation, preservation of our ideals, preservation of freedom, preservation of Anglo-Saxon civilization. These are the things that are confronting us. The preservation of these things is the thing that is engaging our attention, and everything else should be lost sight of for the time being, until we accomplish the great purpose we have in view. Until



that time, conservation and the discussion of all these economic theories are of no more consequence than the rattle of a pebble at the bottom of a pauper's grave.

#### ARGUMENT OF GEORGE B. GORDON.

Mr. GORDON: I am sure you are all impressed with the eloquence and ability displayed here in the discussion of this question. It is all-important that this matter should be settled speedily, and that the argument of counsel should be made, even at this late hour to-night. I shall be as brief as I can.

I have a few suggestions that have occurred to my mind with reference to this matter, and which I hope may be, to some extent, helpful to you in its solution. In the first place, it does not seem to me that there is any trouble at all about the power or the right of this Commission to authorize the building of this weir in the St. Lawrence river. If I understand the Ashburton-Webster Treaty, when you come to read it in its plain language, you find this: that the Ashburton-Webster Treaty related principally to the establishment of a boundary line between the United States and Canada, and that it confined its attention to boundary waters, and the particular boundary waters which are set out in that one section of the treaty. The only boundary waters that are referred to in the Ashburton Treaty are the river St. Lawrence on both sides of the Long Sault island and Barnhart island, the channel in the river Detroit on both sides of the island, possibly, and to the several channels and passages in the river St. Croix. So that the Ashburton-Webster Treaty related solely and only to the boundary waters at these specified places. That treaty was made in 1842, and it was made with reference to the situation that existed at that time, and it had nothing to say or do with the question of power. As a matter of fact, of course that could not be considered at that time. It had relation to the amount of commerce there was on these rivers at that time. That state of affairs has passed away and there came up a great many disputes with reference to boundary streams and the rights of parties in these streams, and these High Contracting Parties got together and they proceeded to make another contract with reference to this matter, and they did so because their former contract was not sufficiently explicit and did not provide for the regulation of these boundary waters at all points where the international boundary impinged upon them. Consequently, under article II of the Treaty of 1909, they proceeded then to contract, not with reference to the three little spots of boundary waters mentioned in the Ashburton Treaty, but with reference to all the boundary waters, and it necessarily included these three little spots that they had previously contracted for, and they said: "The High Contracting Parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purpose of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally."

Mr. POWELL: There is a little incident in connection with this treaty-making. In this Treaty of 1909 there is an express inclusion of lake Michigan, to be put on the same terms as boundary waters, with respect to navigation. Hold that fact in mind. The same thing had been done in the Treaty of 1871, so that it looked as if Mr. Root and the British

Minister had the idea, because in this they took out the expression in the Treaty of 1871, and included it.

Mr. GORDON: And when they came to Article III of the Treaty of 1909 they said:—

“It is agreed that, in addition to the uses, obstructions and diversions heretofore permitted or hereafter provided for by special agreement between the Parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission.”

Then you come to Article VIII, and you find it is provided:—

“This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this treaty the approval of this Commission is required.”

It is provided there that the International Joint Commission shall have jurisdiction over all cases which arise under Article III. Then you turn back to the Preliminary Article of this treaty, and you find out what boundary waters are that are spoken of in the agreement, and it says:—

“For the purposes of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers and waterways, or waters flowing from such lakes, rivers and waterways, or the waters of rivers flowing across the boundary.”

So that neither of those High Contracting Parties can authorize the construction of anything within boundary waters from the one end of the country to the other, or in any of the bays, inlets or channels, and so forth, without the consent of this Commission. And is it not rather strange that the learned Solicitor General should come here and argue that you cannot do these things with reference to the three pieces of boundary waters that are referred to in the Ashburton Treaty?

Time is passing, and I simply want to indicate to you, as the opinion of a common law lawyer; I do not pretend to be an international constitutional lawyer, as do some of the gentlemen who have appeared before you. But let us look on this case from the standpoint of the application for the approval of this work.

I am very glad to be able to say at the close of this case, just what I said at Atlantic City. I said then that I thought when the gentlemen on the other side had come to hear our statement of the facts in this case,

they would agree with us that our facts were correct, and I understand that is what they do to-day. They have sat here for all these days; they have with them eminent engineering experts who are familiar with the situation from childhood; they have sat here listening to the testimony of our witnesses, and by their silence they give to our witnesses that character for honesty and intelligence in their profession which I believe is well-deserved. It is conceded here that the facts are as they have been represented by the Aluminum Company of America.

What are the facts? In the first place it is conceded that there is a shortage of aluminum. It is conceded that we have given you the figures of how, from year to year, in time of peace as well as in time of war, the demands of commerce and of the people of the world, and of the people of North America for aluminum has increased by leaps and bounds. We have shown you how we have supplied that demand and we have shown you that we are the only people in North America who could undertake to do it. We have shown you that there is a particular and special burden placed upon us at this time by this present situation of war. We have shown to you, and it is an admitted fact, that the demands of the Allies alone and the orders placed with us by the United States Government, at the present time alone, reach 128 per cent of our capacity. And, we have shown you that we are making very strenuous efforts to increase the output of aluminum in every direction possible. We have shown to you, and it is not contradicted, that, if we are allowed to do this dredging and build this dam, and make this weir in the river, that we will in all human probability be able to better cope with the demand—as far as the judgment of our men goes—and I think what they have accomplished in the past, and what they have done here in Canada at Shawinigan, and right under your eyes at Massena, shows they are men of very good judgment in their profession. I do not need to urge before you the value of their experience and their judgment, in their profession. I do not need to urge before you the value of their experience and their judgment, because their works, which you have seen, speak for that. To the very best of their judgment they will get six million or seven million more pounds of this very-much-needed commodity, if your Commission gives them authority to build this work. I need not elaborate that, because it is a conceded point. I need not say any more to you than the learned Solicitor General and Judge Koonce, who represent the two Governments, have said, to show that the two High Contracting Parties under this agreement realize that the production of this commodity is of the highest importance and essential to the winning of the war.

Now, then, what is left of this case? There is left of this case the question of the navigability of the rapids at the Sault, and the question of the possible conservation in the future of the energy of the St. Lawrence river. What need I say about the navigation of the Sault that would stand in the way of an improvement of this kind? You have stood on the shores of the St. Lawrence and looked at it, and no man standing on the shore and looking at the rapids in the South Sault can say that that river is navigable. I cannot give you a better definition of "navigable" than Judge Koonce has given, and I shall not undertake to. The river is not actually navigable for any useful purpose. This weir that has been constructed in this river is not an obstruction to any present utility of that river. The War Department



of the United States, with its usual care, passed upon that question, and the War Department of the United States always, in its orders, looks to the question of the future. And when the War Department of the United States said to the Aluminum Company of America that they could do this work in the river, they said that if at any time in the future, in the opinion of the Secretary of War, it should cause unreasonable obstruction to the easy navigation of said waters, the permittee will be required upon due notice from the Secretary of War to remove or alter the structure or work or obstruction caused thereby, without expense to the United States, so as to render navigation reasonably free, easy and unobstructed.

What has the Aluminum Company here? The Aluminum Company has nothing but a revocable permit from the United States. It must put its money into this improvement, simply upon its own opinion as to how long the United States is going to leave it there. If at any time the War Department of the United States finds that that weir is an unreasonable obstruction to the navigation of the St. Lawrence river, they will see to it overnight and we will have to get it out, and if we do not get it out within the time ordered we are liable to a fine of \$5,000 a day.

Mr. MIGNAULT: Would you agree that similar conditions be inserted by the Dominion of Canada, whereby they could at any time call for the removal of this obstruction?

Mr. GORDON: That would not be entirely fair. There is a difference between the two because this obstruction is on the American side and in American waters.

Mr. MIGNAULT: But it affects navigation also, and both countries are equally interested in navigation.

Mr. GORDON: I submit not quite in the same way. I submit that when we come here with the permit of the Secretary of War——

Mr. MIGNAULT: The only jurisdiction the Secretary of War has is with regard to navigation and not with regard to the soil. The soil is in the State of New York and not in the Federal authorities. The Federal authorities pass on the question so as to protect the right of navigation. But the Secretary of War is in the same position as the Dominion Government. Both are interested in the protection of navigation, and neither of them owns the soil in the bed of the river.

Mr. GORDON: I would a great deal rather have this Commission exercise that jurisdiction than have the Dominion Government exercise it independently.

Mr. TAWNEY: Would there be any objection on the part of yourself and your clients if the approval of the Commission were given, reserving in the Commission the power to modify or require the removal of the obstruction upon the application of counsel for either Government or by any interest, in either country, that claims to be injuriously affected thereby.

Mr. GORDON: I do not think I would have the slightest objection if this Commission determines at any time that it unreasonably affects the navigation of the river.

Mr. MIGNAULT: That would be a different proposition because that would require an absolute majority of the Commission and one section of the Commission could prevent the removal of the structure. I do not say that would be the consequence, but such a thing is possible.

Mr. KOONCE: As counsel before your Commission I cannot admit that the International Joint Commission would deal with this question in any way except in a spirit of fairness and justice.

Mr. MIGNAULT: There is no doubt about that.

Mr. GORDON: And if we look back at the history of the Commission we will fail to find any case where the Commission has not acted unanimously on a question.

Mr. TAWNEY: In all important cases the Commission has maintained jurisdiction over the structure or obstructions, where the effect, as in this case, could not be ascertained with certainty in advance, for the purpose of making any modification or changes in the structure that might be found to be necessary, in order to protect the rights and interests of the people on the other side. I did not make the suggestion I have made with any other view than simply the thought occurred to me that in that way the rights and interests of all on both sides of the line could be absolutely preserved and this work might go on.

Mr. GORDON: The point I was trying to make is that we try to provide for the future, and those who framed the Ashburton Treaty provided for portages, and that kind of thing, which nobody takes into consideration now. Of course, we do not know what the future will produce. But when anybody comes and asks for a permit to build anything in a river, you find the Secretary of War trying to provide for the future, for the protection of the public, but after all he can only look on it from the point of view of the present. I suppose the Canadian Government probably does the same thing with reference to such matters on this side of the line. But, if ever a question comes up under this treaty, with regard to the protection of people on either side of the water, this Commission can deal with it in such way as will be satisfactory to the High Contracting Parties, and the Commission is here for the purpose of settling these things and preventing disputes and bad feeling, which otherwise might arise between the two Governments.

I would like to say a few words on the question of conservation. I venture to assert here that if there has been one corporation or one interest upon the North American continent that has done more to conserve and use and protect the water-powers of the country, than any other, it has been the Aluminum Company of America. I venture to say there has not been a spade put in the ground at Massena since they started that plant, that has not been put in in the direct interest of true conservation, as conceived by men who understood conservation as well as any people on the continent. I submit you have only to look at these levels to see that if the time ever comes in the future when by any joint action of the United States and Canada any public or private interest undertakes to develop the power in the river at the Sault, that what they will attempt to do will be this: they will attempt to get every horse-power out of that rapid that is possible, and when you look at the question of how you are going to get every bit of horse-power possible out of that water it is a question of head, and when you come to the question of taking the water from the American side you will never take it down the South Sault—you would drain the South Sault dry—you will take it down the Massena canal and the Grasse river because you get thirteen feet more head that way than if taken down the South Sault. Everything done by the company in developing the

Grasse river and the Massena canal is in the interests of conservation in the highest degree, because it is in the interest of getting the fullest energy out of every cubic foot of water there. And if the question of navigation ever comes up, just as was done on the Canadian side, the true way to develop navigation on the American side will be found to be by a lock at Massena, which will take the heavy draught boats that they talk about all the way down there. They will not bother about whether there is a drop of water in the Sault. The question is the water that has to be got to carry the steamships that will carry the freight that is necessary to develop this great American continent in the way it is going to be developed.

I have not gone into details, but I submit to the Commission that the question here has been adequately disposed of. We have shown to you that there is no present injury to navigation; we have shown to you that there is no present injury to any water power, and that everything that is being done is in the interest of the development of commerce and navigation and power, in the future. And I think I may say, without being instructed by my clients, that if this Commission feels that there is any doubt about the future, we have no objection to the Commission making its order conditional, that if it is found at any time in the future, upon the application of either Government or any of their citizens, that there is any interference with navigation, that this Commission can make such terms to this order as it deems best, and we will live up to them.

#### ARGUMENT OF LEIGHTON MCCARTHY.

Mr. MCCARTHY: Mr. Chairman and gentlemen,—You have had a long day, and so have we, and I do not propose to occupy very much of your time; but I am going to ask just a few moments because, perhaps, barring my friend Mr. Davis, I have been longer connected with the Long Sault than any other gentleman who has appeared here before you.

My learned friend, Mr. Gordon, has stated that we should not be afraid of ghosts. I hope the commissioners will take that very, very seriously to heart. Ten years ago this company proposed to develop the potentiality of that stream and were disposed to submit to any control as to the rates at which powers should be sold that the Government on either side saw fit to inflict upon it. We were told then by my friend Mr. King, and by other gentlemen representing conservation interests, that the scheme could not be brought about; that the scheme was one of robbery and thievery, and that it would not be possible for Canada or the United States to permit a development at that place. To-day I have lived ten years longer to hear these very gentlemen telling you that it should be carried out in one scheme, that the Governments should join together to develop it and develop it at once. It has turned out in the course of events by reason of this most unfortunate war that the long-delayed development of the Long Sault rapids is practically an economic crime. The losses of the development of that power to the Allied Governments, to the people of Canada, and to the people of the United States, cannot be covered by one's imagination. With the development that would have taken place had there been 600,000 horse-power you would have had cities on the Canadian side from Brockville to Cornwall. Not only that, but you would have been producing for the Allied Governments the explosives and the munitions



which they so badly need. Canada would have half of that power at her disposal. She would not be so hard pressed for coal as she is to-day, not having that commodity within her own territory. Since the uproar, since the howl, which was not all confined to one side, in the years 1909 and 1910, this company has desisted. Nothing further has been done toward the development at the Long Sault. They have been forced to go elsewhere. They have made large developments in North Carolina and in Tennessee. But I say now to this Commission—and I have the authority of my clients to say it—that should the Government of either country, state or province, desire to develop this water-power, they would more than welcome it, and they would be prepared to make a contract to take a large block of that power for use in their business. We are not power purchasers for sale purposes. We are power users. And if people will develop power we will buy it from them.

It was our engineers who conceived the possibilities of the Long Sault rapids. It was this company that submitted the plans to the respective Governments for the purpose of asking for their approval upon terms which they were prepared to negotiate with either Government, but if it is the desire of the Government on either side, if the sentiment on either side of the river is such that the Government, Federal or State or Provincial, can be drawn together and will develop this power, we welcome with open arms such development, and will join and co-operate in it.

At Atlantic City, I must say as a Canadian I was not proud of my country. We are asked now, "Why did not you approach the Government of Canada?" When we approached them through the one tribunal of its character in the world for the purpose of merely expediting a hearing, alleging as a fact, as it has been proved and admitted, that by this scheme eight million pounds of aluminum, one of the most essential products for war purposes, would be produced, how were we met by the counsel of Canada, my country? He said, "I have such instructions to oppose this thing that I cannot assent to even you hearing it. You will find you are going to interfere with navigation. The levels of this river are going to be so interfered with that we cannot possibly assent to it."

MR. MIGNAULT: Is that entirely fair. The objection of Mr. Keefer was to an immediate hearing, and when Mr. Koonce pressed him to consent to an immediate hearing he stated that he had no authority to agree to it.

MR. MCCARTHY: I was asked by Mr. Tawney if we could not try to get together and arrange for an approximately immediate hearing. I went to my friend, Mr. Keefer, and asked him if it was possible to arrange for a hearing, and he said no.

MR. KEEFER: I do not mind being abused. Having no case, abuse the opposing attorney. He can hammer away at me as much as he wants to.

MR. MCCARTHY: Have I said any word of abuse?

MR. KEEFER: You said you were ashamed of your country.

MR. MCCARTHY: I said I was ashamed of the way in which my country met this application. They now say: "Why do you not get the two governments to come together?" The first intimation of that came yesterday. The time when we did try to get together—and we only wanted expedition—we were told we were going to be met with an absolute opposition. I think that certainly answers the suggestion of the Solicitor General, which came from the Government of Canada for the first time yesterday, as to why

we did not do it. We proceeded through the proper channel, a tribunal created for the very purpose of doing what is asked of it.

As to the jurisdiction of this Commission; it does seem to me that there cannot be any question of doubt about it. The purpose for which the tribunal was created is this very purpose, to settle disputes between the two countries or to so arrange that there shall not be a dispute between the two countries. A company in the United States comes to its proper authority to get the permit of that authority, which permit contains a clause that it shall be subject to the approval of the International Joint Commission. Now, the International Joint Commission is in session here, and what has been cited to you to prevent your expressing your approbation or your disapprobation of the words permitted by that permit? I have been unable to follow my friends in their argument whereby they assert a lack of jurisdiction. It is quite possible for them to argue that the Ashburton Treaty created a bar to our asking for that approval, that there was an agreement between the parties which prevented this agreement being made, but that does not for a moment oust your jurisdiction. Does the Ashburton Treaty create such a bar? There can be but one answer to that. It seems to me so clear. The Ashburton Treaty was one creating the boundaries between the two countries, disposing of the slavery matter and one other. It marked the boundary between Canada and the United States, and in one clause it provided something with reference to these two channels. Nearly eighty or ninety years later these two parties came together for the purpose of making a treaty with reference to all waters on the boundary. And they gave you jurisdiction to deal with all disputes with reference to boundary waters. They defined for your special benefit what are boundary waters, and what but for that definition would not be boundary waters. And they say to you, you have jurisdiction over all. The technical argument that that broad definition should not prevail over something which appeared in the Treaty of 1842, it seems to me cannot appeal to reason, to law, or to equity. With the jurisdiction being undoubted, you are left with the construction, only not of the Ashburton Treaty, but of the Treaty of 1909. There can then be no doubt that you have the right, upon such terms as to you may seem just or right, to divert or obstruct any of the waters in boundary streams subject to the terms of that treaty. The whole question, therefore, comes to you as one of discretion, the exercise of proper judgment upon the facts adduced before you. It comes to you in a hurry up manner for the reason that it has become essentially necessary in the interest of the British Empire, Canada, the United States and other Allies that we should have more of this important munition produced. The shortage is well known. By this means it is hoped that some eight million pounds more of aluminum will be made. Are we to hesitate because we see a ghost? Can there be any public opinion; is there any public opinion in Canada that will stay our hand? There has not been a tittle of evidence given by any of these gentlemen to controvert any of the facts adduced by the applicant. Is there a sentiment in Canada that would say you should stay your hand for five minutes under the circumstances that have been adduced here, unless it be the hysteria of some person produced by a ghost-like appearance of somebody saying, "They are trying to steal a water-power?" Well, gentlemen, if you can be influenced by that, if there is not sufficient ability upon the International Joint Commission to protect the interests of both parties under those circumstances, I misjudge my men.

We were told yesterday that you could put a dredge in and within thirty days take out what it is proposed to put in. Unless you charge bad faith on the part of the Government of the United States, there cannot be any question about it that if the levels on the Canadian side should be raised so as to affect the navigation interests in any way that that obstruction can be removed. I have faith in the engineering department of my country. They have been studying this problem for a month, and not one man of all the engineering staff of the Dominion of Canada has been produced that says our conclusions, our data, our opinions are wrong. I say that as a result of this evidence it is made abundantly clear that they do not believe for one moment that one single interest in Canada will be prejudiced or materially affected by these proposed works. Not one witness has come forward. We are met solely face to face with a technical objection that you gentlemen have not the jurisdiction. That is what we are met with, and if there is a public opinion in Canada that will stand behind that technicality, I misjudge my country. I do not believe that there exists throughout the length and breadth of Canada a public opinion to-day that will say: "Stay your hand for five minutes because the Ashburton Treaty is alleged to say that the channel in the South Sault should be kept equally free and open." I do not think the construction which my learned friend seeks to put upon that language is fair. What those men were seeing about was that the inhabitants of both sides of that river should be able to go up and down it. There is no navigation up. It is not fair to assume that because it refers to those channels on both sides of the Long Sault and both sides of Barnhart island that they thought they were dealing with navigable water. The north side of Barnhart island is not navigable. You can wade across that little river at places, and going up or down it you would have to go through the Long Sault rapids, but the boat that runs Long Sault rapids never could go through Little river. So it is not fair to assume that they thought they were dealing with navigable waters in their entirety. What they sought to do was to see that there should not be any discrimination.

If the South Sault were canalized there would be the same charge on both sides, that it should be equally free, but it did not intend to go any further than that. Even if it did, when the commissioners representing the two parties met they dealt with other matters in Michigan, with other matters in Canada and New Brunswick, whereby they provided against obstructions. They used the language of the Ashburton Treaty practically in your Article I. The verbiage is almost identical. I cannot conceive that they did not have that before them, that they were trying to obviate any disputes, or if disputes arose, to settle them, and they so provided.

My learned friend the Solicitor General suggested that if any of the locks were broken, or if this dam were not there, they would have the south channel in which to run their boats. Those of us who live in Canada know that they have a good many breaks, but no one has ever heard that any of those boats ever attempted to go down the South Sault. The commercial boats that go through that canal draw more water than could possibly go through the South Sault.

In addition to what my friend Mr. Gordon said about the canalizing of the South Sault, the development of this power as proposed by this



company now is not only true conservation, but it is an efficient conservation, and it will be part of a bigger scheme which I hope in the near future the Governments or somebody else will take up and develop. When you come to develop the Long Sault every bit of work that has been done at Massena can be added to it and form part of the larger scheme. There is no loss anywhere. By canalizing it, as was suggested this morning, a boat can easily come down through the Massena canal. One look at the works and at the Grasse river and you have your navigation if you desire it. That is true conservation. I have never been able to understand how my conservation friends can justify themselves for this system of objection and blocking things beyond a certain reasonable period. It is ten years now since it was proposed that this company should develop the Long Sault. They said stop, and for five or six years they have been saying the Governments ought to do it. When once you admit that the development can safely and wisely be done, is it conservation to have for years and years that enormous and valuable asset running on down to the sea producing nothing except the right of one steamer to run down there every day for two months of the year?

I submit to you, gentlemen, with all confidence that you will appreciate the gravity of the situation with reference to war; that you will not be disturbed by ghosts as to what might or might not take place in the future. The future can be provided for by proper conditions, and you have the ability, I know, to so provide. I ask that this company be given the reasonable permit for which it has applied and that there may be eight million pounds more of aluminum to help beat the Huns.

#### ARGUMENT OF FRANK H. KEEFER, K.C.

Mr. KEEFER: May it please the Commission, I would like to reply to a few points of my learned friends, Mr. Koonce, Mr. Gordon, and Mr. McCarthy. So far as Mr. McCarthy's personal reference to what took place at Atlantic City is concerned, I will leave that for the notes. As one of the commissioners pointed out, it is quite contrary to the record.

Mr. MCCARTHY: If it is I apologize most humbly. I misunderstood the record.

Mr. KEEFER: I did not mind it one bit because it is a very good thing to do if you are opposing a case to have the attack made upon the counsel and not upon the case. In this particular case it is just like water upon a duck's back. But at Atlantic City what I did do—and I think the hearing to-day amply justifies it—was to oppose a hearing then and there. I wanted to get the usual notice so we could have sufficient time to investigate this case. Even to-day we are unable to tell, unless we go into this mass of data that has been presented, what are the effects of these proposed works.

Mr. TAWNEY: Speaking for myself, in view of the fact that my name was used by Mr. McCarthy, as I understand your opposition it was to the suspension of our rules for the consideration of this matter without your having the time provided for by the rules for preparing your statement in response.

Mr. KEEFER: That was it.

Mr. McCARTHY: That is what I understood it to be, and I went to him to try to get him to shorten the rules.

Mr. KEEFER: I would again, tomorrow, with the light we have now, oppose any immature consideration of such an important question as this is, but the zeal of my learned friend in his advocacy for his clients I think has carried him past the mark.

I will not refer to that part of Mr. McCarthy's address which was more of the nature of an address to a jury than to jurists, of why do you not call the engineers. Therefore, you have a bad case, and so forth. We will pass that. But he did say that the Ashburton Treaty relates to boundary lines. That is true, but in order to make it clear what the Ashburton Treaty was intended to cover, may I quote you a few words of the President's address submitting it to the Congress of the United States. When speaking of the definition of the boundary he said:—

“It has happened that in some cases the boundary leaves the navigable stream in the other territory.”

He also says:—

“Thus, at the Long Sault in the St. Lawrence, a dangerous passage, practicable only for boats, the only safe run is between the Long Sault islands and Barnhart's island, all which belongs to the United States on one side, and the American shore on the other.”

Then I would ask you to remember this when they are talking about whether this was intended to protect the then navigation. It was the only safe channel then, so the President said:—

“On the other hand, by far the best traffic for vessels of any depth of water from lake Erie into the Detroit river is between Bois Blanc, a British island, and the Canadian shore. So, again, there are several channels or passages, of different degrees of facility and usefulness, between several islands in the river St. Clair, at or near its entry into the lake of that name. In these three cases, the treaty provides that all the several passages and channels shall be free and open to the use of the citizens and subjects of both parties.”

That was one of the points that the treaty endeavoured to reach, and we think did reach. I am glad to know the argument about the actual use of the word has been abandoned, because I call your attention to the fact that the word is not used at all in the interpretation given by the President of the United States.

Mr. GORDON: We did not have time to argue it out; we did not think it was necessary; but it is not abandoned.

Mr. KEEFER: I will now take up the points my learned friend, Mr. Koonce, mentioned which I think should be referred to. I am only endeavouring to answer the points that should be mentioned because I think the address of the Solicitor General has covered the crux of this case and it is only advisable to deal with the points that have been brought up in answer to that.

My learned friend, Mr. Koonce, for whom I have the greatest respect, was trying to make out by quotations from the Treaty of 1871, relating to

the waters of the St. Lawrence in our own territory and the Yukon waters, and so forth, that the inference is that there is no navigation declared free in the treaty that we have under discussion. I admit that the word "navigation" is not used in Article VII of the Ashburton Treaty, and I say that as a strong argument in support of our contention. We do not have to prove the navigability that has been so much talked of in connection with this river. That was assumed, unless the words are futile, when it was said to be free and open to the boats. It does not matter what boats. But the word "navigation" is not used in Article VII of the Ashburton treaty. It says merely that it shall be free and open to boats.

Let me quote again from page 282 of the Works of Daniel Webster. In a letter to Mr. Webster under date of July 16, 1842, Lord Ashburton says:—

"We want a clause in our present treaty to say that, for a short distance, namely, from the upper end of Upper Long Sault island to the lower end of Barnhart's island, the several channels of the river shall be used in common by the boatmen of the two countries."

Not navigation at all.

In Mr. Webster's reply to that letter the words are:—

"Shall be severally free and open to the vessels of both countries."

If that does not distinctly speak of these rivers being navigable at that time, contrary to what was interpreted by my learned friend, Mr. Koonce, I cannot understand the language.

There is another letter in which the word "navigation" is used by Lord Ashburton. In his communication of July 29, 1842, to Mr. Webster, appearing at page 288 of the Works of Daniel Webster, he says:—

"I should remark, also, that the free use of the navigation of the Long Sault passage on the St. Lawrence must be extended to below Barnhart's island, for the purpose of clearing those rapids."

That is assuming and declaring that that was a navigable stream at that time.

Mr. MIGNAULT: Can you suggest why that provision was made specially for these channels at Bois Blanc island in the Detroit river and for the passages in the St. Clair? There is no other stipulation that any other part of the rivers which are now boundary rivers shall be kept free and open in the Ashburton Treaty.

Mr. KEEFER: I think I might be able to suggest that, sir, by reference to the correspondence. The correspondents seem to have been seeking to go further, and the letter of Mr. Webster was dealing with this matter. In his letter appearing on page 288 he says:—

"It being understood that all the water communications, and all the usual portages, along the line from lake Superior to the lake of the Woods, and also Grand portage from the shore of lake Superior to the Pigeon river, as now actually used, shall be free and open to the use of the subjects and citizens of both countries."

That was what was apparently talked of between the two, but when the treaty came to be enacted it was brought down distinctly to these very important channels in the St. Clair and St. Lawrence, and apparently the rest was not covered.



Mr. MIGNAULT: You have remarked that between Barnhart island and the south shore of the St. Lawrence the St. Lawrence is entirely in United States territory, and there was obviously no necessity of stipulating at least that that part of the river should be kept free and open. The other parts of the river are generally between the two countries. That is, the part where the sole navigation of the channel is, and where, I understand, 95 per cent of the whole flow of the river passes, is entirely in the United States. There was obviously a stipulation, especially with reference to that part of the river, that it should remain free and open to the citizens of both countries.

Mr. KEEFER: The President, in his presentation of the treaty, covers that point. If you will read his address, you will see that he deals with that.

Mr. MIGNAULT: You might put in all of the President's address, and all of the correspondence so we could have it accessible.

Mr. KEEFER: He says the treaty made no provision for the common use of the waters by the citizens and subjects of both countries. Then he goes on and says:

"In these three cases, the treaty provides that all the several passages and channels shall be free and open to the use of the citizens and subjects of both parties."

These three places were especially designated to be common water.

Mr. MIGNAULT: For what reason?

Mr. KEEFER: I fancy that they were crucial points and there should not be any question about them. As mentioned in the correspondence, the one at Bois Blanc was a safe channel, and the one in the Long Sault was a safe channel.

Mr. MIGNAULT: There is no stipulation on either side of Cornwall.

Mr. KEEFER: Apparently not.

Mr. POWELL: It strikes me that the necessity for inserting it was because they thought the other was not a safe channel, that is the big channel on the north.

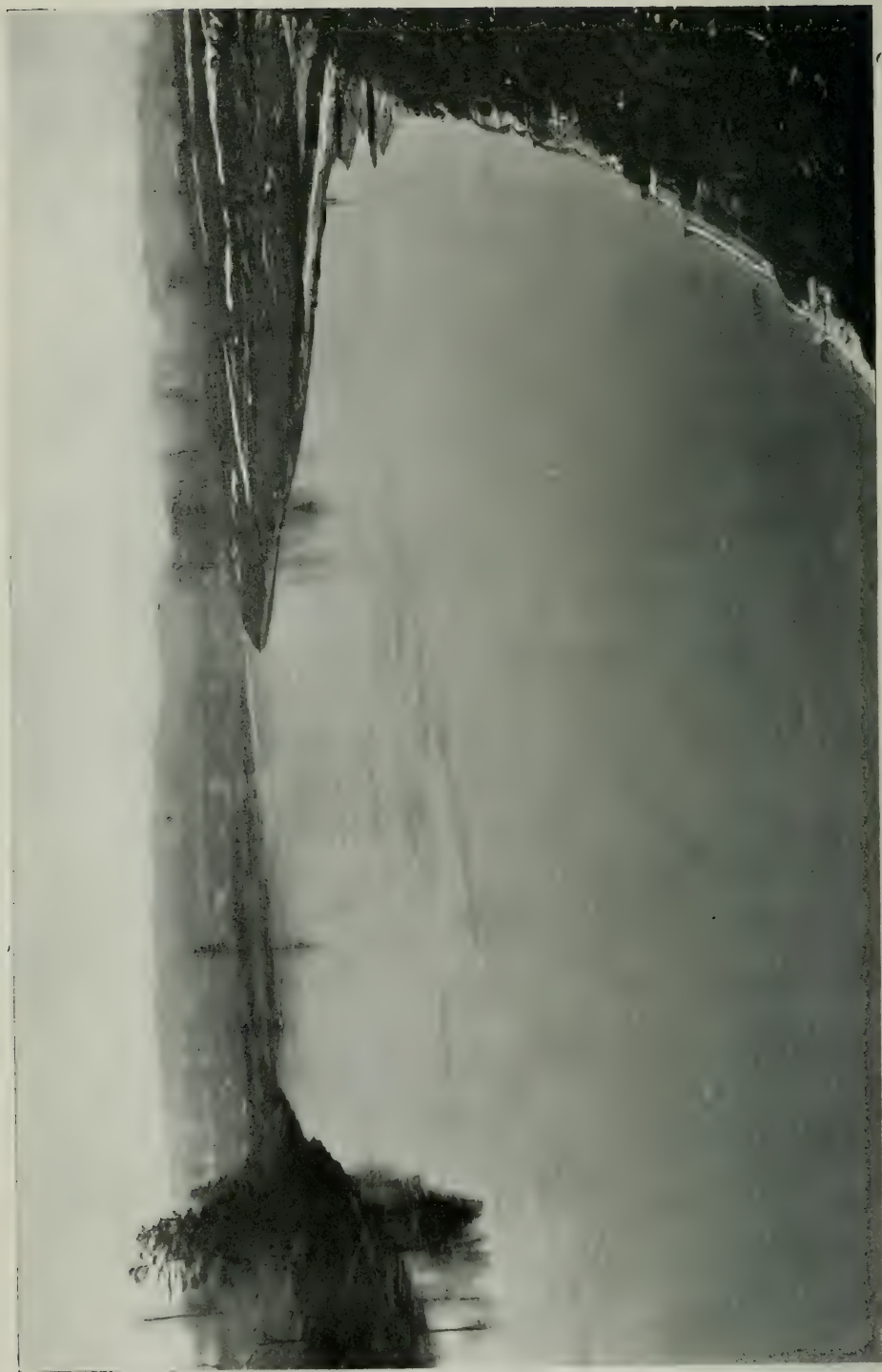
Mr. KEEFER: It clearly appears from the correspondence that the south channel is considered the safer channel.

Mr. TAWNEY: Mr. Keefer, do I understand you to contend that article VII of the Ashburton Treaty is in as full force and effect now as though the Treaty of January 11, 1909, had never been agreed to between Great Britain and the United States?

Mr. KEEFER: So far as interfering with and blocking navigation is concerned it has been so held by the courts. May I again repeat to you my understanding of that distinction? That treaty gives you powers in the navigable waters, which would include the several ones mentioned; and you have dealt with the St. Clair; you have had cases before you, but have you ever attempted to close the St. Clair? I would like to see you try it. You would get into a hornet's nest everywhere. That treaty gave you the power to put in certain remedial works for navigation, but not to interfere with navigation. Here the application is absolutely to block navigation. That is why I say we do not need to go into the merits of this application at all. You cannot entertain it.

Mr. TAWNEY: If you contend that article VII of the Ashburton Treaty is in full force and effect as it relates to the north and south channels of the





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Grasse River below Massena.



St. Lawrence river and the Long Sault island and the other islands, then how do you explain the purpose of the High Contracting Parties in their treaty of January 11, 1909, where they state in the preamble, "The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, being equally desirous to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, have resolved to conclude a treaty in furtherance of these ends, and for that purpose have appointed as their respective plenipotentiaries," and so forth.

The preliminary Article of the treaty, defining boundary waters, states: "For the purposes of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes."

That includes the north and south channel of the Long Sault, as well as all other boundary waters, does it not? Then they agree in Article I, "That the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce," and so forth. And Article III states:—

"It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the Parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission."

In Article VIII they go further and say:—

"This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Article III and IV of this treaty the approval of this Commission is required."

In exercising that jurisdiction the High Contracting Parties have specifically directed how it shall be exercised:—

"The High Contracting Parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters."

The Article then proceeds to state the order in which the precedence shall be observed among the various uses enumerated. Here you have in three or four specific instances of the Treaty of January 11, 1909, the north channel and south channel of the Long Sault dealt with in connection

with all other boundary waters over which this Commission has been given jurisdiction. If we cannot exercise our jurisdiction in respect to these particular waters, then what particular waters can we exercise any jurisdiction over?

Mr. KEEFER: I am very glad you have brought the question up, and in my reply I would like you to look upon me as *amicus curæ*. I will give you my best light upon this treaty. I did not put forward my answers in any specious manner, but on what I thought was a fundamental ground that this Commission ought to know.

Now, let us look at it in answer to those two points. I make the assertion, in the first place, that this treaty, so far as free waters are concerned, goes wider than the Ashburton Treaty. The whole includes the less. The Ashburton Treaty made free and open certain boundary waters and it expressly designated we had no rights there until this treaty came into force, and recognizing that principle, each Government acted independently of the other in the work that they saw fit to do. Take, for instance, the incorporation of this company and the giving to them the power to draw this water away, subject, however, to their not interfering with navigation. Therefore this treaty goes, so far as boundary waters are concerned, much wider than the Ashburton. That does not repeal it unless it is specifically so stated, because it is the ordinary rule of interpretation of treaties and statutes that to repeal something you must designate it.

The preliminary article simply defines boundary waters. Then we come to Article I. That Article simply enunciates one salient principle—the parties agree that these boundary waters shall forever continue free to both peoples. That is given for the purpose of commerce and also for the purpose of ships. They can go in there without anything at all in them. We must obey the customs regulations. Tolls and things of that kind cannot be charged. They shall be forever free.

Now, I lay this down as a principle in my argument, that the two parties, having contracted to that effect, it is not within your jurisdiction to derogate from that, and you cannot do it legally. Those are free and open, declared so by the treaty, and they include these four. Therefore, do I say, stopping at that point, that not only by the Ashburton Treaty, but also by this treaty these waters are to be free and open and to continue so. If you put a dam across a river and stop it you are not continuing it; and I say that so far as your jurisdiction is concerned, not only relating to the South Sault channel, but to the St. Lawrence river or to the St. Clair river, you cannot do anything that will interfere with a continuation of the free and open navigation.

We will pass on from Article I to Article II. I would like my friend, Mr. Commissioner Mignault, for whose opinion in connection with the interpretation of treaties I have the greatest respect, to notice the last paragraph of that Article. It states:—

“It is understood, however, that neither of the High Contracting Parties intends by the foregoing provision to surrender any right, which it may have, to object to any interference with or diversions of waters on the other side of the boundary the effect of which would be productive of material injury to the navigation interests on its own side of the boundary.”

You have been given powers, limited powers. You can improve them if you see fit. You can put in compensation works if you see fit, but you cannot obstruct or block them.

When it developed in this hearing that, as the chief engineer of the applicant said, this completely obstructs navigation, there was nothing else to do. We simply stood upon the treaty. It was not a question of terms; it was not a question of advisability or merit; it was a question of violating a treaty.

Now, passing on to Article III. It is under Article III that you take jurisdiction in this case. Article III says:—

“It is agreed that, in addition to the uses . . . no further or other uses . . . shall be made except by authority of the United States or the Dominion of Canada . . . and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission.”

We had certain uses. We had our Ashburton Treaty. But these uses must be in addition to those we had. It does not by implication cancel the Ashburton Treaty. It rather supports it.

Now, when dealing with the question of bringing it before your Commission, Article III says:—

“The foregoing provisions are not intended to limit or interfere with the existing rights of the Government of the United States on the one side and the Government of the Dominion of Canada on the other, to undertake and carry on governmental works in boundary waters for the deepening of channels, the construction of breakwaters, the improvement of harbours, and other governmental works for the benefit of commerce and navigation, provided that such works are wholly on its own side of the line, and do not materially affect the level or flow of the boundary waters on the other, nor are such provisions intended to interfere with the ordinary use of such waters for domestic and sanitary purposes.”

Why? Navigation again. I am not here arguing the brief for my learned friend, Mr. King, but you have challenged me on it, and I cannot help arguing it.

Mr. McCARTHY: What did we do at Sault Ste. Marie? We have ridden right through the treaty in that event.

Mr. POWELL: We built across the channel.

Mr. KEEFER: Were there boats coming down the channel? You provided an alternative route. Here there is no alternative route proposed. All I can say is if you have acted illegally, some day in some court your action may be brought into question.

Mr. TAWNEY: Both Governments consented.

Mr. KEEFER: Well, that was an improvement to navigation. I presume you are referring to the navigation of those rapids. Did you have any testimony that you had boats of five feet draught running down there?

Mr. McCARTHY: They are capable of being developed for navigation.

Mr. KEEFER: Certainly, but you provided an alternate route. Now, Article IV touches this case, Article V does not, Article VI does not, Article 7 does not, but Article VIII does. What does it do? Article VIII says:—



"This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this Treaty the approval of this commission is required."

Mr. POWELL: The waters referred to there are the boundary waters.

Mr. KEEFER: Exactly, and it says that in passing upon such cases.

Mr. POWELL: What cases?

Mr. KEEFER: Such cases as come before you.

Mr. POWELL: And these boundary waters on either side of the line in which we have jurisdiction.

Mr. KEEFER: Take it that way, if you like, but see where you are tied down again. We are told in this your order of precedence that you are first to deal with these waters for domestic and sanitary purposes, and, secondly, you are to deal with them for the use of navigation. Could any sane man argue before you that, therefore, in this case, when navigation is dropped entirely, you can skip number two, and go to number three, and deal with this case?

Mr. MIGNAULT: Assuming we have jurisdiction, because I believe we have jurisdiction.

Mr. KEEFER: You have jurisdiction to entertain it.

Mr. MIGNAULT: The regulations say:—

"The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:—

"1. Uses for domestic and sanitary purposes;

"2. Uses for navigation, including the service of canals for the purposes of navigation;

"3. Uses for power and for irrigation purposes."

Mr. KEEFER: Exactly, I did not put it half as well as you have put it, Mr. Mignault, but my thought was that even under that section you are tied down to the order of precedence, and when you have before you the statement uncontradicted and unquestioned that this work absolutely prohibits navigation that has existed, then I say to you—

Mr. TAWNEY: But that does not exist now.

Mr. KEEFER: I challenge that statement. It does exist now; it is not used now. There is lots of navigation existing to-day that is not used, but it does exist.

Mr. TAWNEY: The water is there.

Mr. KEEFER: The boats go down there every year, and it does not make a particle of difference if none went down; the navigation is there.

Mr. KOONCE: The term "navigation" used in the Act, means commerce.

Mr. KEEFER: I have pointed out two or three times what navigation means, and Mr. Gordon and Judge Koonce, both able and skilful lawyers, slid away from the words of the Ashburton Treaty which says that navi-

gation shall be open to both countries. That is plainly stated in the Ashburton Treaty, and if you erect this structure you have to close it to both. Is the Commission prepared to do that?

Mr. MIGNAULT: It is a question, to my mind, if you block the South Sault channel, what prevents you blocking the whole river? Where do we stop?

Mr. KEEFER: Absolutely so, and if you start in in this case to allow a dam across one channel, you will have power to allow it across the two channels, whether the channels be in our territory or anywhere else. If a man wanted to put a structure in the middle of the Detroit river where a great part of the commerce of this continent passes, on the reasoning submitted to you by counsel for the other side, there would be nothing to prevent this Commission allowing it. That is absurd. The Governments of the two countries never intended you should have that power. But they did intend that you should have that power that in these navigable waters you might permit obstructions if they do not affect navigation, and you might compensate for them, but you cannot block in toto.

Mr. POWELL: Suppose Canada conceived the notion that for some purpose she would make a huge dump on her own side of lake St. Clair which did not interfere with the navigation of lake St. Clair, would you argue that Canada could do that?

Mr. KEEFER: Certainly she could.

Mr. POWELL: Then it is a matter of what is reasonable and what is unreasonable.

Mr. KEEFER: It is not a question of what is reasonable and what is unreasonable; it is a question of continuing under this treaty.

Mr. POWELL: You say that Canada could do that to a certain extent, and that extent must be determined by whether it is reasonable or unreasonable.

Mr. KEEFER: This may be very interesting, but if Mr. Powell will allow me to proceed.

Mr. POWELL: I want you to get what is in my mind. You take the Long Sault island, or we will suppose there is no island there at all, and that the international boundary line runs where it does to-day. There can be no question about it to my mind but that the United States could go on filling from the margin of the shore out, as long as it did not reasonably interfere with navigation.

Mr. KEEFER: I agree with you in that.

Mr. POWELL: Suppose there were only one big channel, the United States, on her side, could fill it out so long as she did not unreasonably impede navigation. Would it make any difference, Mr. Keefer, whether or not the United States in doing that left a little channel? The United States could fill that up just the same as if it were a process of accretion to the southern bank. I may be wrong, but I have it ingrained in me that the criterion of this is whether it is reasonable or unreasonable. Navigation is a very simple thing. Do not let us be disturbed about it. The right of navigation is simply to get from point to point. If that right is reasonably left to a man, no law in the British Empire will interfere with anything that is done, and the law is the same in the United States. The whole thing to my mind is the question whether it is reasonable or unreasonable.

Mr. KEEFER: I think you and I are of the same opinion on that. I say again that laying aside the Ashburton Treaty—and that is your question—when you are dealing with any boundary waters you have the power to deal with these boundary waters, provided you do not obstruct navigation.

Mr. POWELL: Unreasonably obstruct navigation; not mathematically obstruct navigation, but from a practical standpoint to unreasonably interfere with it.

Mr. KEEFER: If that be your interpretation, in that view of the treaty, I would answer you, yes, but in that same treaty it has also been said that all navigation shall be free.

Mr. POWELL: Reasonably free.

Mr. KEEFER: It says that it shall be free and that it shall be open.

Mr. POWELL: There is the point.

Mr. KEEFER: There is the point, and that is all I am talking about. I am not talking about a hypothetical case.

Mr. POWELL: Leaving out the Ashburton Treaty, I say we are not obstructing navigation if you leave open to them a route that is reasonable. If that northern route is a reasonable route, you are not obstructing, in the eyes of the law, navigation completely. Your argument is that they are.

Mr. KEEFER: I was endeavouring to answer Mr. Commissioner Tawney by stating my interpretation of the treaty, and that its prohibition does not require that you shall completely obstruct navigation. But by the structure asked for, you will completely obstruct navigation, and the treaty says that navigation shall be free and open. If you grant this permit you will be saying that it shall not be free and open.

Mr. POWELL: You rest on that?

Mr. KEEFER: And also on the fact that the Ashburton Treaty has never been varied or departed from. The representative of the Dominion of Canada has come here, and he has expressly said that if this application be made to Ottawa the matter will be considered by Ottawa, immediately. They have sent him here saying this, and he has said it. If this application be made to Ottawa, I repeat, it will be immediately dealt with and dealt with to the satisfaction of the two countries.

Mr. MAGRATH: According to your argument, that would be contrary to the treaty?

Mr. KEEFER: No, the point is that the two High Contracting Parties could do it. That is the whole point.

Mr. TAWNEY: Do you mean to say that Canada and the United States could by special agreement do anything with respect to these boundary waters?

Mr. KEEFER: I say that Canada and the United States can agree right away on a problem like this.

Mr. TAWNEY: Could Canada do it, independent of the British Government?

Mr. KEEFER: We could pass an Order in Council immediately.

Mr. POWELL: Which, under the treaty, would not be worth anything. There would have to be contemporaneous legislation by Canada and the United States. The fact is that the treaty is not with Canada at all; it is with the British Government.

Mr. KEEFER: The cables are there and it does not take long to get assent, if the assent of the British Government is required. I want to say



again that we are not blocking by any technical objection the power to produce more aluminum. We are, in fact, urging that more aluminum should be produced, and we are as anxious as the United States that it should be produced. We are not even blocking a private corporation, but we are declaring a policy. We declare, first of all, that the public domain of the country should not be handed over. We are interested in this. By this treaty these waters are just as much ours as they are the waters of the United States. Such an order as is asked for in this application would require, under the Ashburton Treaty, similar action on our side, and that action has not been asked for.

Mr. POWELL: If we comply with this application, what part of the public domain would be injured?

Mr. KEEFER: The whole of that river.

Mr. POWELL: But they have it now.

Mr. KEEFER: And when Mr. Gordon was asked the question by Mr. Mignault, whether or not he was willing to take this order, subject to Canada at any time being entitled to ask for the removal of this structure, he said, Oh, no.

Mr. TAWNEY: Would you?

Mr. KEEFER: Yes.

Mr. POWELL: I think it is almost criminal that a great scheme of development has not been adopted before this. Had it been, so far as Canada is concerned to-day, our difficulty with the coal supply would be largely overcome.

Mr. KEEFER: I agree with you.

Mr. POWELL: It would appear to me that this is magnifying to something of importance the merest technicality. That company has to-day the right to develop a certain amount of power. It is not asking for any more power, although the result of what they ask would have the effect of supplying quite an additional power to what they are getting. And against that the argument is that Canada is asking for a right that she cannot exercise for any particular purpose; that is the right of sending little boats down there.

Mr. KEEFER: I do not agree with you. Canada has come forward in a dignified manner and has raised the point of its rights under the treaty. If that argument is wrong, it should take the consequence. But at the same time Canada says that in order to be consistent, Canada will deal with this matter to the satisfaction of the United States, and Canada will deal with this matter to the satisfaction of everybody and with the object of winning the war.

Mr. POWELL: I am afraid that the action of Canada will be misconstrued in the United States.

Mr. KEEFER: The action of Canada is dignified and just, and it is in the interests of and incumbent on everyone to see that there is no jury talk about it.

Mr. TAWNEY: If you were satisfied that the construction and maintenance of this weir in the south channel of the Long Sault would not injuriously affect the navigation of the St. Lawrence, or injuriously affect any right or obligation on the part of any interest, what would then be your objection to its construction?

Mr. KEEFER: There would be no objection, if there was ownership of it by the Government.

Mr. TAWNEY: The only objection is that it is owned by a corporation?

Mr. KEEFER: Owned by a corporation. The two Governments should come to an agreement to let these parties construct it, but what we most seriously object to is that the right be given to these people to construct and own it.

Mr. TAWNEY: I am looking at it now from the standpoint of the application, as it has come before us, and assuming now that an order of approval is to be granted, I wish to ascertain whether or not such conditions can be imposed as would protect absolutely any interest that may be concerned. It is for that reason I ask you whether if in the construction and operation of this weir the navigation interests are fully protected, no injurious effects are wrought on navigation, and no injurious effects are allowed on any other material interests of the Dominion of Canada, what objection would you have to the construction and maintenance of the weir?

Mr. KEEFER: Assuming the conditions precedent, which are not here, my answer is that of the counsel for the State of New York, who says that the ownership must be in the state. That is my answer; that is the way it should be.

Mr. TAWNEY: Your objection would be to the ownership?

Mr. KEEFER: My objection would be to the ownership passing away. No one would object to them building it, even if they got the \$125,000 back in one year, but this country does not want the company to own it.

Mr. TAWNEY: If the Commission can by its order protect the interests of the Dominion generally, but if it cannot make the ownership in the possession of one or other of both Governments, you still continue to object of this structure?

Mr. KEEFER: I say that we do not want these boundary waters especially where there are great future possibilities of development, alienated.

Mr. TAWNEY: How is it with the water-powers on the other side that are already fully developed?

Mr. KEEFER: We have nothing to say about that.

Mr. TAWNEY: Canada has nothing to say about the bed of the river, unless it is in Canada.

Mr. KEEFER: Perhaps we have. The Ashburton Treaty gives us the right to have that river kept open. It belongs, of course, to the State of New York. I want to be absolutely frank with the Commission, and I say that we are looking forward to development on a large scale. We are ready to go into it at once, and why should we be a consenting party to hand this water-power over to a private corporation and have to buy it back. That is the effect of the application. We say to the Commission: keep that ownership in the state. The State of New York has also appealed to the Commission to do that, but the United States comes forward, strangely, and says: give this company that in perpetuity.

Mr. POWELL: It would seem to me that the only way of utilizing anything there is through this company.

Mr. KEEFER: Something has been said about a dog in the manger; that this territory should not be handed over to private parties.

Mr. POWELL: But it is not handing over territory, so far as Canada is concerned.

Mr. KING: May I say one word, largely because of what has just passed? It was just suggested by my learned friend Mr. McCarthy that the attitude of the Dominion Marine Association to-day is absolutely inconsistent with that taken when the Long Sault Development Company sought to have the whole river. I would like to ask the Commission to not pass upon that until they have the record. There were three different interests in the Marine Association then represented, the rafting interests, the Richelieu-Ontario Company with its boats, and the freighters. The rafting interests, in the words of the late Sir George Gibbons, were fixed, or, as he said, the timber had been squared and they dropped out of consideration. The protest of the Richelieu Company remains. The freighting interests were weak in their opposition because of the advantages they saw in the tremendous improvement in the canal, but the protest remained then on the very ground advanced to-day, that a private corporation would be given control of the ownership of the works.

Mr. MAGRATH: Mr. Gordon, I would like to refresh my memory about one point in connection with this matter. Will you kindly ask your engineer to come forward for a moment. Mr. Rickey, if this submerged weir is to go in, by what date must it be in?

Mr. RICKEY: I would say not later than the 20th of December.

Mr. MAGRATH: What length of time will it take you to put it in?

Mr. RICKEY: It depends entirely on our ability to get stone. I would estimate three months.

Mr. MAGRATH: If forced to do so, could you not put it in in sixty days? Of course, naturally, you should have all the time you can get.

Mr. RICKEY: I have never done any work of that character. The river has a velocity of about ten miles an hour there, and when we take boats out and drop them down to let stone down I do not know how slow an operation that will be. We estimate that it will take about fifteen thousand cubic yards of riprap. Now, a certain portion of that riprap will be carried down the stream by the current. I do not know how much that will be. That is why I am unable to give a closer estimate of time.

Mr. GORDON: And then we do not know what the weather is going to be.

Mr. RICKEY: We will work our barges as late as the 24th of December. That is the latest we have ever been able to work. The stone we would put in would be the size of three or four of these desks put together; otherwise they would wash right down stream. It is a difficult operation..

Mr. MAGRATH: A time will come when you cannot put the stone in?

Mr. RICKEY: Absolutely.

Mr. MAGRATH: What I want to get fixed in my mind now is the limit of that time.

Mr. RICKEY: If we should place orders for the riprap to-morrow, I doubt if we would have a single cubic yard of stone delivered there short of nearly two weeks. We have been scouring the country ever since our Atlantic City hearing looking up possible sources of supplies. We have located some, and we are still looking.

Mr. MIGNAULT: When you speak of approximately three months for the construction of the weir, do you include in the three months the time



necessary to procure your material, or is it the actual work of constructing the weir?

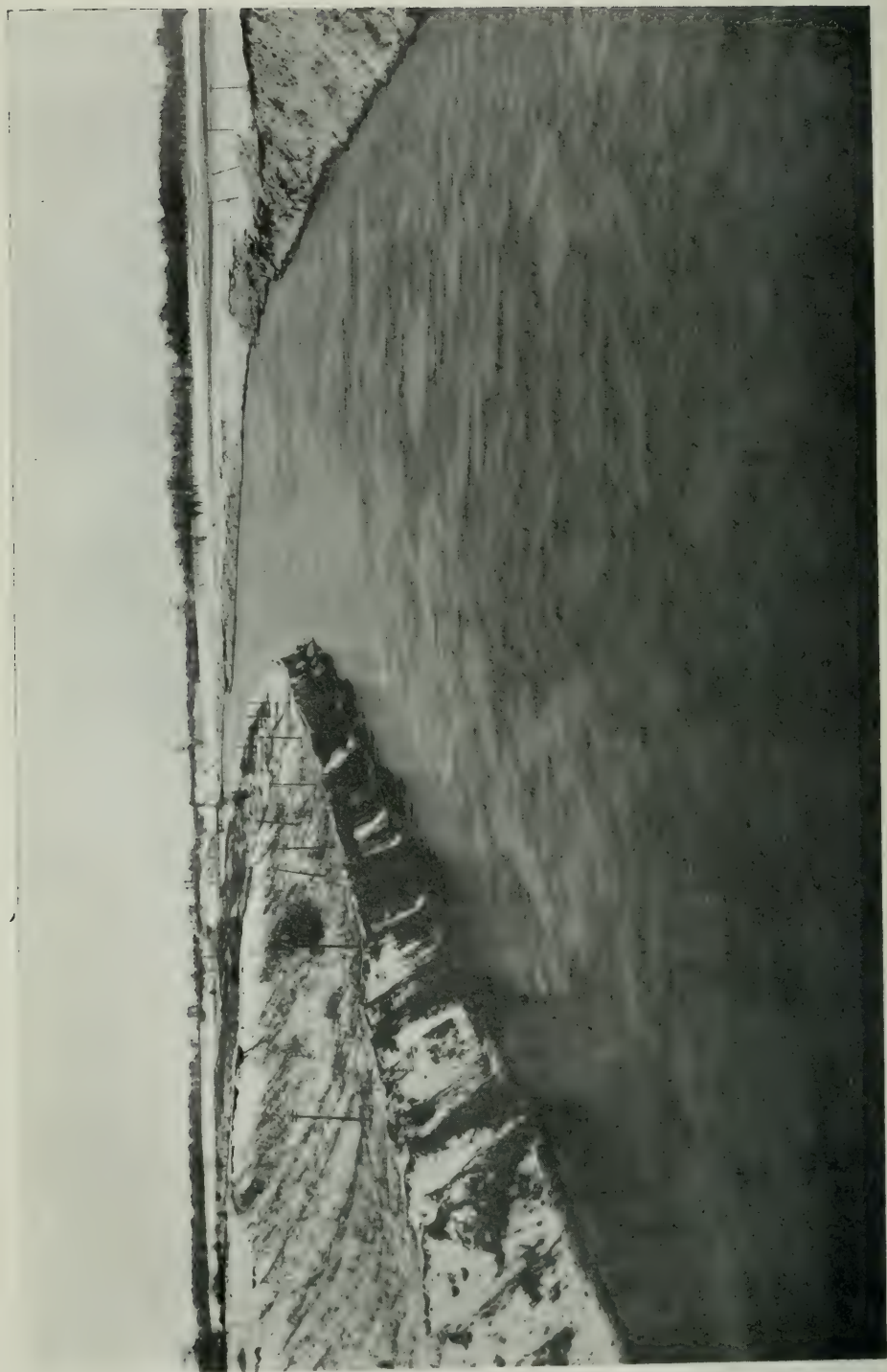
Mr. RICKEY: It would be three months from the time we begin to place orders for the stone until we have the riprap placed. The season will be so late that we will not be able to build the concrete crest on the weir this winter, because the cement will not set quickly enough in the cold water, so that will have to be deferred until next year. My way of getting around that will be to build the weir somewhat higher than we would otherwise build it and remove that next year and replace it with concrete at the proper elevation.

Mr. MAGRATH: The suggestion was made here to-day by the Solicitor General of Canada that if the two Governments got together this matter could be settled very quickly. I think you should place yourself on record as to when you have to get authority to start that structure if you are going to get it in this year, because there is involved in this six or seven million pounds of aluminum.

Mr. RICKEY: If the authority should come later than the 15th of September, I would doubt very much if we could complete it this year. That would give us until the middle of December.

The Commission thereupon adjourned.





Power canal between St. Lawrence and Massena.

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## ST. LAWRENCE RIVER POWER COMPANY EXHIBIT A1.

### AN ACT TO INCORPORATE THE SAINT LAWRENCE POWER COMPANY OF MASSENA, SAINT LAWRENCE COUNTY, NEW YORK.

#### CHAPTER 484.

Became a law May 9, 1896, with the approval of the Governor. Passed by a majority vote.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section 1. Michael H. Flaherty, Henry H. Warren, Charles A. Kellogg, Charles R. Higgins and Albon Man, and all such persons as are, or may hereafter be, associated with them, are constituted a body corporate and politic, by the name and style of the Saint Lawrence Power Company of Massena, New York, for the purpose of constructing, maintaining and operating a canal or canals from Saint Lawrence river to the Grass river, in the towns of Massena and Louisville, Saint Lawrence county, New York, for the purpose of the development of power, and for the purpose of furnishing hydraulic and electrical power for manufacturing and other purposes, and transmitting such power to a distance by electrical or other means, and for navigation, and the purpose of the improvement of lands situate in said towns of Massena and Louisville, as hereinafter specified.

Section 2. The corporation herein created shall have power to construct, maintain and operate a canal or canals from the Saint Lawrence river, commencing at a point or points between the westerly line of what is known as the Daniel Talcott farm, and the easterly line of the farm now occupied by the widow of William Dodge, upon the southerly bank of the Saint Lawrence river, and extending to, through and over the lands intervening between said points and the Grass river, and to terminate upon the northerly side of the Grass river, at a point or points between the bridge over the Grass river in the village of Massena, and the place known as Massena Center, in said town of Massena, and to conduct from the Saint Lawrence river water sufficient for the purpose of developing the power for all the purposes herein mentioned, and to discharge the same into the Grass river, but not to interfere with the navigation of the Saint Lawrence river. And also to construct, maintain and operate upon said canal or canals, and along the lines thereof, at any and all points, all necessary gates, locks and all other necessary appliances for the purpose of using the waters conducted through said canal or canals for the development of hydraulic or electrical power or navigation. Said corporation to have the power to construct, maintain and operate said canal or canals over the lands intervening between said points upon acquiring title to said lands, or the right of way from the owners thereof. Said corporation to have the power to acquire the title of and to become the owner of any and all lands along the line of said canal or canals, or which may become necessary, or which shall be

deemed advantageous and profitable to said corporation for the purposes herein mentioned. Said corporation shall also have the power to hold, lease, sell and convey lands, or other property, for the purposes of its business, and upon such lands to accumulate, conduct and store water from the Saint Lawrence river, and also, to sell, lease, furnish, operate and supply the waters of the Saint Lawrence river, by conducting from the point or points herein mentioned, as may be most convenient, and to sell, lease, furnish and operate the power developed or to be developed from the flow of such water, for fire, lighting, sanitary, municipal, domestic, manufacturing, agricultural, power or other purposes; and also, shall have the power, by such hydraulic or electrical conductors, or other devices as shall be permitted by the authorities of the city, village or town, in or through which such conductors or other devices shall be constructed, operated or maintained, to conduct, convey and furnish such power, to, through or in any town, village or city in the state of New York, and to acquire, erect and maintain all such machinery and apparatus as shall be necessary or proper for the utilization of such transmitted power along the lines of transmission for any lawful purpose for which it may be available. Said corporation shall also have the power, upon obtaining the consent of the local authorities, to furnish pure and wholesome water to the village of Massena, or to any other village in the town of Massena in said county, upon such terms as may be agreed upon. Said corporation shall also have the power to erect upon lands owned by it buildings for the purpose of dwellings, manufacturing or business purposes, and to sell or lease the same. It being the general intent and purpose of this section to give and to grant to said corporation the power to maintain, construct and operate said canal for navigation, and to use the water from the Saint Lawrence river for that purpose, and for the generation of hydraulic and electrical powers, together with the power to construct, maintain and operate machinery, transmission lines, and other apparatus for the purposes of generating and transmitting electricity for power or other purposes, to sell and lease such hydraulic and electrical power so generated.

Section 3. The capital stock of said corporation shall be two hundred thousand dollars, divided into shares of one hundred dollars each, and the said corporation is hereby empowered to increase the said capital stock, from time to time, as the necessities of the corporate business may require, as hereinafter specified, and not to exceed ten million dollars. All stocks shall be considered personal property, and shall be assignable and transferable on the books of the company. Every stockholder of said company shall be personally liable to its creditors in an amount equal to the amount of the stock held by him for all debts and contracts made by the company, until the whole amount of the capital stock then issued and outstanding shall have been paid in, and a certificate showing such payment, signed by the president and a majority of the trustees, stating the amount of capital stock fixed and paid in at the date of such certificate, shall have been filed and recorded in the office of the clerk of Saint Lawrence county, and in the office of the secretary of state, which certificate shall be verified by the oath of the president or secretary of said company. No person holding stock in such company as collateral security, or as executor, administrator, guardian or trustee, unless he shall have voluntarily invested the trust funds in such stock, shall be personally subject to liability as a stockholder; but



the person pledging such stock shall be considered the holder thereof, and shall be liable as stockholder; and the estate and funds in the hands of such executor, administrator, guardian or trustee, shall be liable in like manner and to the same extent as the testator or intestate or the ward or person interested in such trust fund would have been if he had been living and competent to act and hold the same stock in his own name, unless it appears that such executor, administrator, guardian or trustee voluntarily invested the trust funds in such stock, in which case he shall be personally liable as a stockholder. But such company shall not commence business until it shall have paid to the state treasurer the organization tax provided by chapter one hundred and forty-three of the laws of eighteen hundred and eighty-six. Such company shall also upon increasing its capital stock pay to the state treasurer a like tax upon the amount of such increase.

Section 4. No action shall be brought against any stockholder for any debt of the company until judgment therefor shall have been recovered against the company, and an execution thereon shall have been returned unsatisfied in whole or in part. No stockholder shall be personally liable for any debt of the company not payable within two years from the time it is contracted, nor unless an action for its collection shall have been brought against the company within two years after the debt shall have become due, and no action shall be brought against a stockholder after he shall have ceased to be a stockholder, for any debt of the company, unless brought within two years from the time he shall have ceased to be a stockholder.

Section 5. The capital stock may be increased by a vote of the majority of the stockholders representing a majority of the stock of the corporation, at a meeting thereof, convened for that purpose. Notice of such meeting shall be given to every stockholder by depositing in the post office, properly addressed to his last known place of residence, postage prepaid, at least five days before the time fixed, a written or printed notice stating the time and place and object of such meeting.

Section 6. The concerns of said corporation shall be managed by five trustees, who shall be stockholders, a majority of whom shall be residents of the state of New York, and who shall hold their office for one year, and until others are chosen in their places. Said trustees shall be, after the first year, annually elected by the stockholders at such time and place as shall be directed by the by-laws of said corporation, and a public notice of the time and place of holding such election shall be published not less than ten days previous thereto, in a newspaper published nearest to the place where the operations of said company shall be carried on, and an election shall be made by such of the stockholders as shall attend for that purpose, either in person or by proxy. All elections shall be by ballot, and each stockholder shall be entitled to as many votes as he may own shares of stock in said company, and the person receiving the largest number of votes shall be trustee. Vacancies may be filled in such manner as may be provided by the by-laws of said company. The trustees for the first year shall be Michael H. Flaherty, Henry V. Warren, Charles A. Kellogg, Charles R. Higgins and Albon Man. The first election of trustees of said company shall be held on the first Tuesday of May, eighteen hundred and ninety-seven. But vacancies occurring in the board prior to the first election may be filled by appointment by the remaining members of the board at any time.

Section 7. There shall be a president of said company, who shall be designated from the number of the trustees, and also such other officers as the company by its by-laws shall designate, who may be elected or appointed, and required to give security for the faithful performance of the duties thereof, as the company by its by-laws may require.

Section 8. The trustees of said company shall have power to make such prudential by-laws as they shall deem proper for the management and disposition of the stock and business affairs of said company, not inconsistent with the laws of this state, and prescribing the duties of officers and servants that may be employed, for the appointment and election of all officers, except trustees, and for carrying on operations within the objects and purposes of said company; and also, providing for the manner of amendment of such by-laws.

Section 9. The trustees of such company may contract for and may purchase lands, interests in lands, and other property, including any work of construction necessary for their business, and issue shares of the capital stock of such company in payment therefor, and the stock so issued shall be declared and taken to be full paid stock and not liable to any further call, and the holders thereof shall only be subject to the same liabilities and have the same rights as other holders of full paid stock in said company; but in all statements and reports of the company to be published, this stock shall not be stated or reported as being issued for cash paid in to the company.

Section 10. Said company shall have power by the vote of its directors, to secure the payment of any part of the price of any property purchased by mortgage or mortgages thereon, or upon any other property owned by said corporation, or upon both, to borrow money, and issue bonds for its corporate purposes, to such amount as may from time to time be authorized and approved by the trustees, and with the consent of the stockholders holding a majority of the stock of said company, at a meeting called for that purpose, may secure the payment of any such bonds issued or proposed to be issued by a mortgage or mortgages upon its property, rights, privileges and franchises, or any part thereof.

Section 11. Said company may hold stock in any corporation created for or engaged in the business of using or supplying waters from the Saint Lawrence river in the county of Saint Lawrence, or of any corporation created for or engaged in the use of power for light derived from such water, or manufacturing by means of the power derived therefrom, and may hold stock in any corporation which shall contract to purchase, lease or use any power or property of the Saint Lawrence Power company, and the trustees of said Saint Lawrence Power company shall have power to contract for and purchase or receive such stock of such other corporation upon such terms as they may agree upon and in payment thereof to issue the stock of their company, but not to increase its capital stock except in the manner prescribed in this act. When said company shall be a stockholder in any other company, as herein provided, the board of directors may appoint its president, or any other officer, to be ex-officio, the stockholder of record of such stock, and to vote the same for such company in the corporation in which such stock is taken.

Section 12. Said company may acquire title to lands for the purposes herein specified in the manner specified by the condemnation laws of this

state, and may by any of its officers, agents or servants, for the purposes aforesaid, enter upon and survey any lands. Before beginning condemnation proceedings to acquire lands, waters, easements or rights therein, or entering upon or using any thereof, except to survey the same, and except such as shall have been acquired by gift, devise or purchase, said company shall cause a survey and map to be made of the lands, waters, easements and rights therein intended to be taken and acquired by the condemnation proceedings, by or on which the land, water, easement or right therein of each owner or occupant so intended to be taken, shall be designated, which map shall be signed by the president and secretary of said company, and filed in the office of the clerk of the county where such lands are situated. Said map may be amended by said company as to any parcel or parcels of land, description of water rights and easements, at any time before the appointment of commissioners of appraisal in condemnation proceedings to acquire said parcel or parcels, rights or easements therein, by filing in said county clerk's office, a new or further map signed as aforesaid, together with a notice stating in substance that the map then on file has been amended, as shown by said new map, and thereupon the said new map shall have the force and effect of the map so amended, and the map so first filed shall be deemed superseded as to the lands, waters and easements described or affected by said amendment, except so far as it relates to the proceedings then had and done.

Section 13. Said company may enter upon and use the ground or soil under any street, highway, road, railroad land, or public ground within said county of Saint Lawrence, for the purposes aforesaid, and may, when necessary, change the location or surface grade of any street, highway or road, and such right shall be continuous for such purpose, including the relaying, repairing, altering or extending its works; provided, however, that in case where any open canal or other open work of said company shall cross any street, highway, road or public ground, or railroad land, said company shall construct, and at all times thereafter maintain suitable and proper bridges over the said road, where such bridges are rendered necessary by the construction of its said work; and in case where pipes or other covered works shall be laid under the surface of any road, street, highway, public ground, or railroad land, the surface thereof shall be made and kept suitable for public travel, and as nearly as may be as it was before said work was done; and in cases of posts, elevated conductors, cables or wires upon and over such road, street, highway, public ground or railroad land, the same shall be so placed and elevated as not to interfere with the ordinary use thereof by the public or railroad company, for highway or railroad purposes.

Section 14. Said company may conduct, operate and maintain its tunnels, conduits, canals, and its hydraulic, pneumatic or electrical conductors, under, through, or over all the property so owned by this company, or over, under or through other lands and territories in accordance with the consent given by the owners thereof and the local authorities of the towns or villages in the county over, through or under which such conductors may pass.

Section 15. The said company shall have the power to and may prevent the flow or drainage of noxious or impure waters or matters from the



lands of others into any canal, raceway, reservoir or other work of said company, and may build, erect, construct, dig and lay canals, raceways, ditches, locks, piers, inlet piers, cribs, bulkheads, dams, gates, sluices, reservoirs, aqueducts, conduits, pipes, culverts, posts, abutments, conductors, cables, wires, insulators, or other works, machinery, fixtures, or buildings of every kind and description whatsoever, that may be necessary, proper and convenient for its said purposes, or any thereof, upon any lands in which it may acquire a right so to do, or in said Saint Lawrence or Grass rivers, provided that the navigation thereof be not obstructed.

Section 16. All rates charged for water, water power, tolls or for electrical power, as authorized by this act, except those charged against a municipal corporation for municipal purposes, shall be a lien upon the premises on or in which such water, water power or electricity shall be used, and may be collected from the person or persons or corporations contracting therefor, or liable to pay the same, or said lien may be enforced in the manner provided by law.

Section 17. The power granted by this act to transmit and use electricity shall be subject to the general laws of the state and municipal ordinances of the several villages and towns within which it shall be transmitted or used.

Section 18. It shall be lawful for the trustees to call in and demand from the stockholders, respectively, all such sums of money by them subscribed, at such times and in such payments or installments as the trustees shall deem proper, under the penalty of forfeiting the shares of stock subscribed for, and all previous payments made thereon, if payment shall not be made by the stockholders within sixty days after a personal demand or notice requiring such payment shall have been published for six successive weeks in a newspaper nearest to the place where the business of the company shall be carried on as aforesaid.

Section 19. Said company shall, annually, during the months of January, February or March, make a report as of the first of January, which shall state the amount of its capital stock, and the proportion actually paid in, the amount of its existing debts and the dividends, if any, declared since its last annual report. Such report shall be signed by the president or vice-president and a majority of the trustees, and shall be verified by the oath of the president or vice-president and the treasurer or secretary, and shall be filed in the office of the Secretary of the State and the office of the clerk of Saint Lawrence county. If such report is not so made and filed all the trustees of the company shall jointly and severally be personally liable for all debts of the corporation then existing, and for all contracted before such report shall have been made. No trustee shall be liable because of any failure to make and file such report, if he shall file in the office of the secretary of state within thirty days after the thirty-first of March a verified certificate stating that he has endeavoured to have such report made and filed, but that the officer, or a majority of the trustees, have neglected to make and file the same, and shall append to such certificate a report containing the items required to be stated in such annual report, so far as they are within his knowledge, or obtainable from sources of information open to him verified by him to be true to the best of his knowledge, information and belief.

Section 20. The corporate existence of this company shall be fifty years.

Section 21. This act shall take effect immediately.

State of New York } SS:  
OFFICE OF THE SECRETARY OF STATE }

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

[SEAL] Given under my hand and the seal of office of the Secretary of State, at the City of Albany, this twenty-third day of August, in the year one thousand nine hundred and eighteen.

C. N. TAFT,

*Second Deputy Secretary of State.*

## ST. LAWRENCE RIVER POWER COMPANY EXHIBIT A2.

AN ACT SUPPLEMENTARY TO AN ACT ENTITLED "AN ACT TO INCORPORATE THE SAINT LAWRENCE POWER COMPANY OF MASSENA, SAINT LAWRENCE COUNTY, NEW YORK."

### CHAPTER 542.

Approved May nine, eighteen hundred and ninety-six, to enable the Saint Lawrence Power Company, of Massena, New York, to construct, maintain and operate its canal for navigation, water supply, illumination and other purposes, and to grant and confirm unto said company the power of eminent domain.

Became a law April 26, 1898, with the approval of the Governor. Passed, three-fifths being present.

The people of the state of New York, represented in Senate and Assembly, do enact as follows:—

Section 1. The Saint Lawrence Power Company, of Massena, New York, shall have the power to lay out, construct, maintain and operate its canal and works in the town of Massena, Saint Lawrence county, from the Saint Lawrence river to the Grass river, for the purposes of supplying pure and wholesome water, water power and electricity, or either thereof, to the village and town of Massena, Saint Lawrence county, and the inhabitants thereof, and to such other cities, towns and villages and the inhabitants thereof as may enter into contract therefor, and the generating, accumulating, storing, conducting, transmitting, using, selling, leasing, furnishing and supplying water, water power and electricity, or either thereof, for fire, illuminating, sanitary, municipal, domestic, commercial, manufacturing, agricultural, irrigation and navigation purposes, in such way or manner and at such reasonable rates and costs and on such conditions to consumers or users as may be deemed advisable and be agreed upon. Any city, town, or village, by its authorities, may contract with said company for the supplying, delivery or use of pure and wholesome water, water power and electricity or any thereof, for fire, illuminating, sanitary, municipal or other public purposes, and said company shall furnish and supply water, water power and electricity or either thereof, for any of said

purposes upon payment of just and reasonable tolls and compensation therefor and under reasonable regulations. The canal and locks of said company shall be open to the public use for navigation by vessels, boats and other craft upon payment of just and reasonable tolls and compensation therefor and under reasonable regulations.

Section 2. The amount agreed to be paid for such water, water power and electricity by any city, town or village shall be annually raised, levied, assessed and collected in the same manner as other expenses of such city, town or village are or may be raised, and when collected shall be kept separate from other funds of such city, town or village and shall be paid over to said company by said authorities according to the terms and conditions of the contract in the special case; provided, however, that no such contract shall be made for a longer period than ten years; and provided further that in towns where there shall be an incorporated village constituting a part only of such town, no tax shall be levied upon the property within the village limits for the purposes of this act, except in pursuance of a contract between the authorities of such village and said company, notice of the execution of which shall have been published in a newspaper published in the village, or in case no newspaper shall be published in such village, then in a newspaper published and circulated in the county where such village is situated, once in each for four successive weeks previous to the execution of said contract.

Section 3. Said company shall have power to cause the necessary examination and survey for its canal, conduits and water pipes to be made, and for such purposes by its officers, agents or servants to enter upon any lands or water, subject to liability for just compensation to the owner for all damage done. Said company shall also have the right to take and acquire by condemnation, in the manner provided by law and on payment of just compensation to the owner, any real property or any right, interest or easement therein required and necessary for the construction, maintenance or operation of its canal and for the flow of water therefrom and shall also have the right to lay, relay, repair and maintain conduits and water pipes with connections and fixtures, in, through or over the lands of others, for the purpose of supplying pure and wholesome water as aforesaid, on payment of like compensation. All property required by said company for the purpose of accumulating, storing, conducting, transmitting, furnishing and supplying water, water power and electricity or any thereof for any of the purposes mentioned in this act shall be deemed to be required for public use.

Section 4. This act shall take effect immediately.

State of New York  
Office of the Secretary of State } SS:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

[SEAL] Given under my hand and the seal of office of the Secretary of State, at the City of Albany, this twenty-third day of August, the year one thousand nine hundred and eighteen.

C. N. TAFT,

*Second Deputy Secretary of State.*



## ST. LAWRENCE RIVER POWER COMPANY EXHIBIT A4.

J. DE PEYSTER LYNCH, *as Special Master*,  
 COMMERCIAL TRUST COMPANY OF NEW JERSEY and  
 MORRISTOWN TRUST COMPANY, *Trustees*,  
 THE STANDARD TRUST COMPANY OF NEW YORK and  
 UNITED STATES MORTGAGE AND TRUST COMPANY, *Trustees*,

AND

ST. LAWRENCE POWER COMPANY OF MASSENA, NEW YORK,  
 TO MARK T. COX.

DEED.

Dated November 24, 1902.

St. Lawrence County, ss.:  
 Recorded on the 22nd day of  
 December, 1902, at 4.10 o'clock  
 P.M. in Liber 160 C of Deeds, at  
 page 1325 and examined.

J. FRED. HAMMOND,

*Clerk.*

Indenture made this 24th day of November, in the year One thousand nine hundred and two, by and between J. De Peyster Lynch, as Special Master, appointed by the Circuit Court of the United States for the Northern district of New York, in the cause hereinafter mentioned, party of the First Part; Commercial Trust Company of New Jersey, and Morristown Trust Company, corporations organized and existing under the laws of the State of New Jersey, and the Standard Trust Company of New York and United States Mortgage and Trust Company, corporations organized and existing under the laws of the State of New York, parties of the Second Part; St. Lawrence Power Company of Massena, New York, a corporation organized and existing under the laws of the State of New York (hereinafter called the Power Company) party of the Third Part; and Mark T. Cox, of East Orange, in the State of New Jersey, party of the Fourth Part.

Whereas the Power Company executed a certain first mortgage dated the 14th day of September, 1897, whereby it conveyed to the United States Mortgage and Trust Company, Hugh Mackay Matheson and Charles Matheson Macdonald, as Trustees, the premises, properties and franchises in said mortgage and hereinafter described to secure a certain issue of bonds of said Power Company, of which there were issued and outstanding on the 18th day of September, 1902, two million eight hundred thousand dollars (\$2,800,000) of principal besides the interest thereon; and prior to said last-mentioned date and to the commencement of the foreclosure proceedings hereinafter recited said Hugh Mackay Matheson had died, and said United States Mortgage and Trust Company and said

Charles Matheson Macdonald had resigned as Trustees of said mortgage, and Commercial Trust Company of New Jersey, and Morristown Trust Company had been duly appointed as such Trustees; and,

Whereas, the Power Company executed a certain other mortgage or deed of trust, dated the 20th day of June, 1900, whereby it conveyed to The Standard Trust Company of New York and Charles Colin Macrae, as Trustees, the said premises, properties and franchises to secure an issue of bonds of said Power Company of which there were issued and outstanding on said 18th day of September, 1902, One million five hundred thousand dollars (\$1,500,000) of principal besides the interest thereon, and prior to said last-mentioned date and to the commencement of the foreclosure proceedings hereinafter recited said Charles Colin Macrae had resigned as Trustee of said mortgage and United States Mortgage and Trust Company had been appointed as such Trustee; and,

Whereas, said Power Company made default in the payment of interest which became due on said bonds, and the principal of said bonds having become due, in accordance with the provisions of said mortgages and of said bonds, such proceedings were had in a certain cause in equity pending in the Circuit Court of the United States for the Northern District of New York, entitled Commercial Trust Company of New Jersey and Morristown Trust Company, Complainants, against St. Lawrence Power Company of Massena, New York, The Standard Trust Company of New York, and United States Mortgage and Trust Company, Defendants, that a certain decree of foreclosure and sale was on said 18th day of September, 1902, entered in said court, wherein and whereby it was adjudged and decreed that said Power Company pay or cause to be paid within twenty days after the entry of said decree certain amounts therein found to be due under said mortgages, and that unless payment should be made within the time so directed by said Power Company, or by some one on its account, the said mortgages, and each of them, be foreclosed, and all the premises, properties and franchises conveyed thereby, and by each thereof, and upon which said mortgages were, or either of them was, a lien, should be sold as provided in said decree; and

Whereas, no payment or tender of payment under the provisions of said decree was made by the said defendant Power Company or by any one on its account within twenty days after the entry of said decree, or at any other time; and,

Whereas, the party of the first part hereto was in and by said decree appointed Special Master to make, direct and conduct the sale of said mortgaged premises, properties and franchises and to sign, seal, execute and deliver a deed or deeds of conveyance thereof to the purchaser thereof upon payment or settlement of the purchase price, as provided in said decree; and

Whereas, the party of the first part pursuant to said decree, after causing previous notice of the time, place and terms of said sale to be given pursuant to said decree, and according to law, did, on the 6th day of November, 1902, at the place in said decree specified, to-wit, on the mortgaged premises of the Power Company at the power-house in or near the Village of Massena, St. Lawrence County, New York, duly sell at public auction to the party of the fourth part, the highest bidder at such sale, all

and singular the said premises, properties and franchises in said decree mentioned and directed to be sold at and for the sum of Five hundred thousand dollars (\$500,000); and,

Whereas, afterwards the said party of the first part did duly make and file his report of said sale to and with the Circuit Court of the United States for the Northern District of New York, which said report and the sale therein mentioned, upon due notice to all parties, were by order of said Court duly affirmed; and,

Whereas, in and by said order confirming said sale, the party of the first part was ordered and directed to sign, seal, execute and deliver a deed of conveyance to the party of the fourth part, conveying all and singular the premises, properties and franchises hereinafter described, upon payment by the party of the fourth part of a further sum in cash in addition to \$2,759,500 face value of first mortgage bonds of said Power Company deposited with the party of the first part by the party of the fourth part, as set forth in said order confirming said sale; and,

Whereas, the said party of the fourth part has in all respects complied with the said order confirming said sale, and has paid in full the purchase price of said premises, properties and franchises as therein provided; and

Whereas, the form of this deed has been submitted to and approved by the said Court and filed with the clerk thereof;

Now, therefore, this indenture witnesseth, that the said J. De Peyster Lynch, Special Master, as aforesaid, the party of the first part, in order to carry into effect the said sale made by him as aforesaid, and in pursuance of the said decree, and in conformity to law, and in consideration of the premises and of the payments as aforesaid made by the party of the fourth part, the receipt whereof is hereby acknowledged, has granted, bargained, sold, assigned, released, conveyed, and confirmed, and by these presents does grant, bargain, sell, assign, release, convey and confirm unto the said Mark T. Cox, his heirs and assigns, in fee simple forever, all and singular the premises, properties and franchises in and by said decree of foreclosure, directed or authorized to be sold, the same being described as follows, viz.:—

1. All that certain piece or parcel of land described as follows:—

Being twenty-five acres off the northerly part of the farm known as the "William Dodge farm," and occupied by him in his lifetime, situated on the St. Lawrence River, said twenty-five acres being that portion of said farm conveyed to said Elizabeth Dodge by the will of her husband William Dodge, which said will is recorded in St. Lawrence County Clerk's office, June 18th, 1880, in Liber 7 of Wills, page 361; said premises being part of lot 6 tract H, and being the most northerly part of the said William Dodge farm, and being the premises lately occupied by said Elizabeth Dodge, and all of the said William Dodge farm not conveyed to Israel and Jennie Dodge by Levy Waterbury, as executor of the last Will and Testament of William Dodge, deceased, together with the appurtenances, and all the estate and rights of the St. Lawrence Power Company of Massena, New York, in and to said premises, being the same premises conveyed to the said St. Lawrence Power Company of Massena, New York, by the said Elizabeth Dodge by deed dated August 16th, 1897, and recorded in the office of the Clerk of St. Lawrence County, August 18th, 1897, in Liber 150 A of deeds at page 6.



2. (a) All that tract or parcel of land situate in the town of Massena aforesaid, and being known and distinguished as the west half subdivision of lot No. 7 of the subdivision of tract G, and bounded as follows, to wit:

Beginning in the westerly line of tract G and at the southwesterly corner of lot No. 7 aforesaid, being the northwest corner of the lot known as the Indian Meadow lot No. 3, and running thence N. 24 degrees 30' W. (as indicated by the magnetic needle Feb. 17th, 1870) along said tract's line 57 chains and 58 links to a cedar post marked L. Howard and Bleecker, 1857, and standing at the northwest corner of lot No. 7 aforesaid; thence N. 65 degrees 30' E. along the north line of said lot 8 chains and 55 links to a cedar post marked W.H.P. and L.A.D. 1870 at the northwest corner of the lot now or lately of L. A. Dana; thence S. 24 degrees 10' E. along the westerly line of said Dana's lot 55 chains and 70 links to a cedar post marked L.A.D. and W.H.P. 1870 standing in the north bounds of the Indian Meadow Lot No. 3 aforesaid; thence westerly along the north bounds of said Indian Meadow lot to the place of beginning, containing 47 &  $\frac{9}{100}$  acres of land, be the same more or less, as surveyed Feb. 17th, 1870, by S. J. Farnsworth, surveyor and C.E. Reserving therefrom the present burying ground so long as it is used for burial purposes. Said burying ground consisting of one acre of land, as reserved in a certain warranty deed from William H. Paddock and Susan A. Paddock to Judson L. Hyde, and recorded in St. Lawrence County Clerk's office in Book 92 B of Deeds, page 169.

Also that other piece of land situate in the town of Massena aforesaid and known as lot No. 3 of the tract known as the Indian Meadows on Grasse River and described in a field book and map of said tract on file in the Secretary of State's office as follows: Beginning at a point in the margin of said river at low water mark in the westerly line of tract G, and running thence along said line 26 degrees W. 2 chains 50 links to a stake; thence N. 47 degrees 45' E. 4 chains and 42 links to a stake; thence N. 56 degrees 15' E. 4 chains and 33 links to a stake; thence N. 45 degrees 45' E. 5 chains 64 links to a stake; thence N. 40 degrees 10' E. 2 chains 77 links to a stake; thence N. 45 degrees 45' E. 40 chains to a stake in the easterly line of lot No. 7; thence along the prolongation of said line 26 degrees E. 4 chains to a point in the margin of said river at low water mark, and thence up along the margin by the windings thereof to the place of beginning—containing 5 &  $\frac{8}{100}$  acres of land, being the same premises described in a certain warranty deed from William H. Paddock and Susan A. Paddock to Judson L. Hyde, and recorded in the St. Lawrence County Clerk's office on the 21st day of November, 1871, in Book 92B of Deeds, page 169.

(b) Also all that certain tract or parcel of land situate in the town of Massena aforesaid, and being the south half of lot No. 21 in the subdivision of the Cooper tract so called, and bounded as follows: Beginning on the north line of the Indian Reservation of the Mile Square of the said town of Massena at the southeast corner of lot No. 20 as surveyed by Amos Lay; thence N. 28 degrees 45' W. 45 chains 75 links; thence N. 61 degrees 15' E. 15 chains and 25 links; thence S. 28 degrees 45' E. 45 chains and 76 links to the north line of the Indian Reservation aforesaid; thence along the north line of the said reservation to the place of beginning. Containing 69 and  $\frac{50}{100}$  acres of land, be the same more or less. Reserv-

ing and excepting from the above described premises one acre of land from the northwesterly corner bounded as follows: Beginning at the northwesterly corner of the said premises in the centre of the highway and running thence easterly 8 rods; thence southerly at right angles with the first mentioned line 20 rods; thence westerly 8 rods; thence northerly 20 rods to the place of beginning, being the premises described in a certain deed from Myron Sharp and Alma Sharp and John Sharp, by their special guardian, Fred J. Hyde, to Judson L. Hyde, which said deed was recorded in the St. Lawrence County Clerk's office on the 17th day of September, 1888, in Book No. 129 B of Deeds, at page 1099.

(c) Also all that piece of land situate in the town of Massena aforesaid, and known and distinguished as lot No. 24 in tract H, and described as follows: Beginning at the northeast corner of the Indian Reservation at a cedar post and stones and running thence southerly along the easterly line of the Indian Reservation 23 chains and 73 links to the northerly border of the Indian Meadows; thence easterly along the northerly bounds of said meadows to a post standing 4 chains and 37 links easterly at right angles from the easterly line of the Indian Reservation; thence northerly parallel with the easterly line of the Indian Reservation 24 chains to a small pile of stones; thence S. 62 degrees W. 2 chains and 36 links to a post; thence N. 27 degrees W. 68 chains and 20 links to an ash post and stones; thence S. 63 degrees W. 11 chains to a hickory post and stones; thence S. 28 degrees E. 26 chains and 20 links to a pile of stones; thence S. 63 degrees W. 4 chains 10 links to a stake and stones in the west line of said lot 24; thence south along said west line 44 chains and 70 links to the north line of the reservation; thence east along said northerly line 11 chains and 45 links to the place of beginning. Containing 100 and 35/100 acres of land, excepting and reserving forever all mines and minerals, with the right to dig, work and carry away the same, as reserved in a deed from Uriel H. Orvis to Judson L. Hyde, and being the premises described in a deed from Uriel H. Orvis and Laura L. Orvis to Judson L. Hyde, which said deed was recorded in the St. Lawrence County Clerk's office on the 4th day of January, 1854, in Book No. 47 A of Deeds, page 224.

(d) Also all that tract or parcel of land situate in the town of Massena aforesaid and known and distinguished as part of subdivision lot No. 24 of the subdivision of tract H. in the town of Massena. Beginning at a cedar post marked J. L. H. and standing on the northerly bounds of the Indian Meadows on the north side of the Grasse river, and where said bounds of said meadows are intersected by the line between tract G and H and running thence northerly along the line between said tracts 80 chains and 18 links to a cedar post and stones marked W. A. and J. L. H. the southeast corner of the twenty-five acre lot now or lately of William Alden; thence S. 63 degrees 45' E. (as the magnetic needle pointed March 28th, 1859) along the southerly line thereof 7 chains to a cedar post marked W. A. and J. L. H., and standing in the easterly line of that part of said subdivision; thence S. 25 degrees 40' E. along the easterly line thereof 53 chains and 48 links to a post and stones; thence N. 63 degrees E. 2 chains and 40 links to a small pile of stones; thence S. 25 degrees 20' E. 24 chains to a point in the northerly bounds of the aforesaid Meadows, and 23 links S. 25 degrees 20' E. from a cedar post; thence easterly along said bounds of said Meadows to the place of beginning. Containing 48 acres and 77/100 of

an acre of land, as surveyed March 28th, 1859, by S. J. Farnsworth, and being all the premises described in a deed from Joseph Orvis and others to Judson L. Hyde, bearing date Feb. 21st, 1860, and recorded in St. Lawrence County Clerk's office, Book 67 A, page 265.

(e) Also all that tract or parcel of land situate in the town of Massena aforesaid, being known and distinguished as a part of the Mile Square, known as the Indian Reservation in said town, and bounded as follows: Beginning at a post and stones at the northeasterly corner of said reservation and running thence S. 65 degrees 45' W. along the northerly line of said reservation 11 chains and 50 links to a cedar post at the southeasterly corner of lot No. 21 in tract II; thence S. 66 degrees W. still along said reservation line 15 chains and 75 links to a pine post marked J. L. H. and Wm. H. P. 1865, at the northeasterly corner of the farm now or lately of William H. Paddock; thence S. 23 degrees 45' along the easterly line of said farm and bounds of a highway 23 chains and 80 links to the north bounds of the highway commonly called the Grasse river road; thence S. 23 degrees and 45' E. (same course) 3 chains and 35 links to a pine post marked J. L. H. and L. H. 1865; thence N. 66 degrees 15' E. 8 chains and 38 links to a point in the center of the mineral spring known as the "Stinking Spring"; thence S. 23 degrees and 45' E. 2 chains and 75 links to a point in the center of the Grasse River; thence easterly along down the center of said river by the meanderings thereof to where said center is intersected by the easterly line of said reservation; thence N. 25 degrees W. along the easterly-line of said reservation 26 chains and 53 links to the place of beginning. Containing 77 acres and 55/100 of an acre of land and river, as surveyed April 14th, 1865, by S. J. Farnsworth, except one-half acre in the southwest corner thereof conveyed to Henry T. Clark and Michael H. Flaherty, and being the same premises described in a certain deed from Lemuel Haskell to Judson L. Hyde, which said deed was recorded in the office of the clerk of St. Lawrence County on the 27th day of June, 1865, in Book 73 B of Deeds, at page 596, except the above mentioned half acre.

(f) Also all that piece or parcel of land situate in the town of Massena aforesaid known and distinguished as lot No. 2 of the Indian Meadows along Grasse river purchased from the St. Regis Indians by the State of New York in 1845, and described as follows: Beginning at a point in the margin of Grasse river at low water mark where the same is intersected by a prolongation of the line between the lots now or lately of Benjamin and Michael Russell and Alfred Russell, and running thence along said prolongation N. 26 degrees W. 2 chains to a stake; thence N. 41 degrees E. 4 chains and 96 links to a stake; thence S. 26 degrees E. 2 chains and 50 links to a point in the margin of said river at low water mark; thence up along the margin by the windings thereof to the place of beginning, containing one acre of land, and being the premises described in a deed from Hannibal Andrews and Hattie D. Andrews to Judson L. Hyde, which said deed was recorded in the office of the clerk of St. Lawrence County on the 15th day of February, 1870, in Book 86C of Deeds, at page 527.

(g) Also all that other piece or parcel of land described as follows: All that certain piece or parcel of land situate in our County of St. Lawrence, known and distinguished as lot No. 1 of the Indian Meadows, lying along Grasse river, bounded and described as follows, to wit: Beginning



at a point in the margin of said river at low water mark in the easterly line of the Indian Mile Square now or lately owned by ——— Haskell, Esq., and running from thence along said line N. 26 degrees W. 1 chain 75 links to a stake; thence N. 41 degrees E. 4 chains 86 links to a stake in the easterly line of said Russell's lot; thence along a prolongation of said line S. 26 degrees E. 2 chains to a point in the margin of said river at low water mark, and thence up along the margin of said river by the windings thereof to the place of beginning. Containing 92/100 of an acre of land as the said lot is described in the field book on file in the office of our Secretary of State. Together with all and singular the rights, hereditaments, and appurtenances to the same belonging or in any wise appertaining. Excepting and reserving all gold and silver mines. The above described premises being the premises conveyed to Judson L. Hyde by Letters Patent from the state, dated April 19th, 1870, recorded August 4th, 1897, in Book 41 of grants in the office of the Secretary of State of state of New York 'York, page 506.

(i) Also all that parcel of land situate in the town of Massena aforesaid, and known and distinguished as the middle part or south end of the northerly half of lot No. 21 in subdivision of tract H, and contains 29 and 60/100 acres of land. Also twenty and one-half acres in lot No. 24, commencing at the southeast corner of the said northerly half of lot No. 21 and running N. on the westerly line of lot No. 24 to the northwest corner of the same; thence running easterly on the north end sufficient length with a line running parallel with the westerly line to the place of beginning, making 20 and  $\frac{1}{2}$  acres of land. Also that other piece of land known and distinguished as a part of lot No. 24 in tract H, in Massena, and described as follows: Beginning at an ironwood post in the northerly line of lot No. 24, 4 chains and 37 links from the northerly corner thereof, and running thence S. 28 degrees E. 24 chains and 30 links to a hickory post and stones; thence N. 62 degrees E. 11 chains to an ash post and stones; thence N. about 26 degrees W. to a post in the northerly line of said lot No. 24; thence westerly along said westerly line to the place of beginning; containing 27 and 34/100 acres of land be the same more or less. Expressly excepting therefrom a right of way across the westerly side of lot No. 24, as reserved in a deed from Fred. J. Hyde and Julia O. Hyde to Judson L. Hyde. The above described premises being all the premises described in a certain deed from Fred. J. Hyde and Julia O. Hyde to Judson L. Hyde, and recorded in the St. Lawrence County Clerks office on the 4th day of August, 1897, in Book No. 149C of Deeds, at page 1316.

The foregoing subdivisions *a b c d e f g* and *i* being the same premises conveyed to The St. Lawrence Power Company of Massena, New York, by Judson L. Hyde and wife, by deed dated September 18, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 23, 1897, in Liber 149C of Deeds, page 1434.

3. All that certain piece or parcel of land being a part of Mile Square in the town of Massena, known as the Indian Reservation, and described as follows: Beginning in the northerly line of said Mile Square lot 27 chains 43 links from the northwest corner thereof at a stake and stones, and running thence S. 25 degrees 30' E. 30 chains to the middle of the highway; thence N. 83 degrees E. along the middle of the highway 2 chains; thence N. 49 degrees 15' E. along the middle of said highway 26 chains 42 links

to a cedar stake; thence N. 25 degrees W. 23 chains 90 links to a hemlock stake in the northerly line of said Mile Square reservation; thence S. 64 degrees W. along the northerly line of said reservation 28 chains to the place of beginning. Containing 76 and 16/100 acres of land as surveyed by Jehiel Stevens, and as conveyed to William S. Paddock by two separate deeds from Lemuel Haskell, one dated December 20th, 1843; recorded August 31, 1846, in Book 39A, page 127; and the other dated October 26th, 1853; recorded December 24th, 1863, in Book 47A of Deeds, page 144. Excepting 24 and 59/100 acres conveyed to Eli Hennigan by deed dated April 1st, 1868; recorded May 7th, 1868, Book 81C, page 495, to which deed reference is hereby had.

Also all that certain other piece or parcel of land situate in the town of Massena, and distinguished as subdivision part of lot No. 8 of the subdivision of the Mile Square known as Indian Reservation, and bounded and described as follows: Beginning at the north bank of the Grasse river at a post marked 7 and 8, being the southeast corner of lot No. 8, and running thence N. 27 degrees 30' W. 36 chains to a post marked 7 and 8 standing in the north line of said Mile Square at the northeast corner of said lot No. 8; thence S. 62 degrees 30' W. 16 chains to a post; thence S. 27 degrees 30' E. 25 chains 75 links to said bank of the aforesaid river; thence along said bank down said river to the place of beginning. Containing 51 & 6/100 acres of land as surveyed in November, 1825, by Samuel B. Anderson, subject to the right of flowing parts of said premises as reserved in a deed from Lemuel Haskell to William S. Paddock dated May 25, 1857; recorded October 17th, 1857, Book 55 B of Deeds, page 311, and being the premises conveyed by said Haskell to William S. Paddock by above mentioned Deeds, excepting and reserving, however, therefrom, that piece or portion of land conveyed by said William S. Paddock to William H. Paddock and by William H. Paddock to Susan A. Paddock by deed dated September 15th, 1864, recorded September 16th, 1864, in Book 71 C of Deeds, page 518, and piece or portion hereby reserved being described as follows: All that tract or parcel of land known and distinguished as subdivision part of lot No. 8 of the Mile Square known as the Indian Reservation, and described as follows: Beginning at a cedar post marked W.H.P., U.H.O. 1857, standing on the north bank of the Grasse river in the east line of land formerly conveyed to Uriel H. Orvis by Lemuel Haskell, and running thence N. 26 degrees 50' W. as the magnetic needle pointed May 15th, 1857, along said east line 14 chains 30 links to a cedar post and stones marked W.H.P. 1857; thence N. 89 degrees 45' E. 12 chains 20 links to a poplar tree cornered and marked W.H.P. 1857; thence S. 14 degrees E. 10 chains to a cedar stake in the centre of the highway which leads from the north end of the bridge across Grasse river at Massena village to Massena center; thence S. 40 degrees 45' W. 6 chains 10 links to a cedar stake on the bank of said river, and thence along said bank up said river to the place of beginning—containing 13 & 92/100 acres of land as surveyed May 25th, 1857, by Silas J. Farnsworth.

Also all that certain other piece or parcel of land situate in said town of Massena, and known and described as part of lot 13, tract II, and described as follows: All that certain piece or parcel of land beginning at the southeast corner of lot 13 in tract II and running thence northerly along the easterly line of said lot 13, 7 chains 34 links; thence westerly at

a right angle with said easterly line 6 chains and 81 links; thence southerly parallel with said easterly line 7 chains 34 links to the southerly line of said lot 13; thence easterly along said southerly line 6 chains 81 links to the place of beginning. Containing 5 acres of land as conveyed to William S. Paddock by Uriel H. Orris by deed dated Feb. 7th, 1849; recorded Oct. 1st, 1850, Book 42 B, page 746.

Also that certain other piece or parcel of land situate in said town of Massena, and described as follows: 40 &  $\frac{1}{4}$  acres, a square as near as may be in the southeast corner of lot 16, tract H, in said town, being the same premises sold by the comptroller for taxes to Garret Smith, and by Garret Smith and wife conveyed to William S. Paddock by deed dated September 1st, 1845; recorded August 31st, 1846; Book 39 A, p. 125.

Also that certain other piece or parcel of land situate in the said town of Massena, and described as follows: Being 8 &  $\frac{7}{100}$  acres of land in the northwest corner after ten acres northwest corner and 81 &  $\frac{2}{100}$  acres north part lot 16, tract H, saving the aforesaid ten acres, as conveyed to William S. Paddock by Garret Smith and wife by deed last above mentioned.

Also that certain other piece or parcel of land situate in the said town of Massena, and described as follows: 45 &  $\frac{8}{100}$  acres around eight acres in the southwest corner of lot 17, tract H, in Massena, as conveyed by Garret Smith and wife to William S. Paddock by deed last above mentioned. Excepting 10 &  $\frac{39}{100}$  acres off the northerly end as conveyed to Alexander H. Andrews by William H. Paddock and wife by deed dated May 19th, 1865, recorded June 13th, 1865, Book 72 C, page 164.

Also all that certain other piece or parcel of land situate in the town of Massena, County of St. Lawrence, and described as follows: Eight acres to be laid out in a square form as near as may be in the southwest corner of 112 acres charged with taxes in the name of David Sheeks, and being in lot No. 17, tract H, in the said town of Massena; the 112 acres are bounded on the south by the Indian Reservation in Massena and on the north by subdivision No. 18 in tract H. Being the premises conveyed by Lemuel Haskell and wife to William S. Paddock by deed dated Jan. 13th, 1831, recorded July 30th, 1834, in Book 19, page 27.

It being the intent hereby to describe all of the farm or premises occupied by William H. Paddock in the town of Massena, except that portion included in the conveyance heretofore mentioned, to Susan A. Paddock of 13 &  $\frac{92}{100}$  acres, together with the appurtenances and all the estate and rights of the said William H. Paddock and Susan A. Paddock his wife in and to said premises.

The foregoing seven parcels of land last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William H. Paddock and wife by deed dated October 12, 1897, and recorded October 14, 1897, in the office of the Clerk of St. Lawrence County in Liber 149 C of Deeds, page 1520.

4. All that tract or parcel of land situate in said town and county, being the south part of lot No. 6 in tract H in said town, and described as follows: Beginning at a cedar post being the southwesterly corner of a lot now or lately of L. Robinson; thence S. 63° 45' W. along the northerly line of a lot now or lately of J. E. Orris 13 chains to a post being the



southeasterly corner of a lot now or lately of S. Benson; thence north  $24^{\circ} 45'$  W. along the easterly line of said lot 15 chains 40 links; thence N,  $63^{\circ} 45'$  E. 13 chains to a post in the westerly line of L. Robinson's lot aforesaid; thence S.  $24^{\circ} 45'$  E. along said line 15 chains and 40 links to the place of beginning—containing twenty acres of land, as surveyed October 27th, 1863, by C. E. Chase, and being all of the premises conveyed to William Alden by Reuben Dutton and wife by deed dated December 29th, 1864, and recorded November 10th, 1865, in liber 75 B., page 10.

Also all that other piece or parcel of land situate in said town of Massena, and being the southeast corner of lot No. 7 in tract H. in said town, and bounded as follows: Beginning at a cedar post standing in the southwest corner of lot No. 7 and running thence N.  $65^{\circ} 30'$  E., along the southerly line of said lot No. 7, 14 chains and 41 links to a cedar post cornered, being the southeast corner of said lot No. 7 and the southwest corner of the farm now or lately of Reuben Dutton; thence N.  $24^{\circ}$  west along the line between said lot No. 7 and the Reuben Dutton lot 17 chains and 85 links to a cedar post; thence south  $65^{\circ} 30'$  west 14 chains and 30 links to a cedar post; thence south  $23^{\circ} 30'$  east 17 chains 53 links to the place of beginning. Containing 25 acres and sixty one-hundredths of an acre, as surveyed by Clark E. Chase, June 15, 1874, and being all of the premises conveyed to William Alden by Lucius A. Robinson and wife by deed dated June 30th, 1874, and recorded July 30th, 1874, in Book 99 A, page 282.

Also all that other piece or parcel of land situate in said town and county aforesaid, and known as part of subdivision lots 10 and 11 in tract H, in said town, and bounded as follows: Beginning at a point in the highway leading from Massena village to the St. Lawrence River north  $65^{\circ} 10'$  east from the northwesterly bounds of the highway, being the southeasterly corner of lot No. 11, which corner is the junction of lots Nos. 11 and 12 on said highway running thence south  $65^{\circ} 10'$  west along the northeasterly line of the farm now or lately of G. Lockwood 12 chains and 45 links to a post and stones; thence south  $64^{\circ} 10'$  west still along the NE. line of said Lockwood's 12 chains and 60 links to a post being the southwesterly corner of the farm now or lately of Reuben Dutton; thence north  $24^{\circ} 10'$  west along the northwesterly boundary of said Dutton's farm 28 chains and 24 links to a post, being the northwesterly corner of said farm; thence north  $64^{\circ} 40'$  east along the northeasterly boundary of said Dutton farm 25 chains to a point in the highway aforesaid 52 links from the north boundary of said highway; thence south  $24^{\circ} 10'$  east along said highway 28 chains and 25 links to the place of beginning. Containing 70 acres and  $50/100$  of an acre of land as surveyed July first, 1870, by C. E. Chase.

Also that certain other piece or parcel of land situate in Massena aforesaid, sold by the comptroller in 1828 for taxes and by him described as forty-four acres in a square form as near as may be in the southeast corner of sixty-five acres being what was taxed and returned in the comptroller's office as the south part of lot No. 6, tract II, in Massena aforesaid, expressly reserving and excepting however twenty acres heretofore sold to William Alden by Reuben Dutton, the said twenty acres being the first piece or parcel herein described. Being all the premises conveyed to William

Alden by Reuben Dutton and wife by deed dated August 21, 1871, recorded in St. Lawrence County Clerk's office, April 5, 1872, in Liber 93 B, page 36, together with the appurtenances.

The foregoing four parcels of land last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William Alden and wife by deed dated October 6, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 13, 1897, in Liber 149 B of deeds, page 1250.

5. All that piece or parcel of land situate in the town of Massena and described as follows: Being a piece off the westerly side of the lot where William Leao now resides or lately resided in said town—commencing at a point in the southerly line of said lot 310 feet from the center of the highway running along the easterly side of said Leao premises, said southerly line being the line between land now or lately the residence of William Leao and the premises now or lately owned by Clark and Flaherty, and running thence at right angles to the northerly line of said Leao lot; thence westerly along said northerly line to the westerly line of said Leao lot; thence southerly along said westerly line of said lot to said southerly line; thence along said southerly line to the place of beginning.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William Leao and wife by deed dated September 23, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 27, 1897, in liber 149 B of deeds, page 1116.

6. Also all that tract or parcel of land, situate in the town of Massena, County of St. Lawrence, and State of New York:—

*First.* All that part of lot No. 13 in tract H. in said town, beginning at a basswood tree, standing in the northeasterly corner of said lot No. 13 thence southerly along the easterly line of said lot 55 chains and 92 links to a post; thence S. 62 degrees W. 14 chains and 24 links to a post standing in the westerly line of said lot; thence northerly along said westerly line 55 chains and 92 links to the northwesterly corner of said lot; thence easterly along the northerly line of said lot, 14 chains, and 22 links to the place of beginning. Containing 79 and 56/100 acres of land, less the land contained in a private road running through the above described lot or parcel of land, which said private road is reserved in this conveyance, and is described as follows: Beginning at a cedar post in the easterly line of lot No. 13, tract H, Massena, 97 chains and 32 links from the N.E. corner of said lot, and running thence S. 55 degrees 15 minutes W., as the magnetic needle pointed August 24, 1859, 15 chains and 47 links to a point in the center of the highway leading from the N. end of the bridge at Massena village to the St. Lawrence river road, and the line of said survey is to be the centre of said private road, which road is to be three rods in width.

*Second.* All that tract or parcel of land known as parts of lots Nos. 12 and 13 tract H. Massena, bounded and described as follows: Beginning in the center of the highway leading from Massena village to the St. Lawrence river at the S. W. corner of land deeded to John B. Andrews by Bishop Perkins, and running thence N. 64 degrees E. along the northerly bounds of said land of J. B. Andrews across part of lot No. 12 and the whole of lot No. 13, tract H, 21 chains to the easterly line of said lot No.

13; thence S. 26 degrees E. along said easterly line 3 chains and 50 links; thence S. 64 degrees W. 22 chains and 20 links to the center of the aforesaid highway; thence N. 14 degrees W. along the center of said highway 3 chains and 52 links to the place of beginning. Containing 7 acres and 66/100 of an acre of land.

*Third.* All that parcel of land known and distinguished as a part of lot No. 12 tract H. in Massena, and bounded as follows: Beginning at a post in the easterly line of said lot No. 12 standing 37 chains and 97 links northerly from the southeasterly corner of said lot; thence N. 62 degrees W. 6 chains and 96 links to the center of the highway leading from Massena village to the St. Lawrence river; thence northerly along the center of said highway, as the same runs 30 chains and 66 links; thence S. 62 degrees E. 40 links to a post in said easterly line; thence southerly along said easterly line 29 chains and 96 links to the place of beginning. Containing 11 and 3/100 acres of land.

*Fourth.* All that certain piece or parcel of land situate and being in the town of Massena, and bounded as follows: Beginning at a stake marked 5 & 6, said stake standing in the easterly line of lot No. 13 tract H. 28 chains and 36 links northerly from the S. E. corner of said lot and running thence westerly at a right angle with said easterly line 14 chains and 13 links to the westerly line of said lot No. 13; thence northerly along said westerly line 6 chains and 58 links; thence easterly parallel with the above line of 14 chains and 13 links, 14 chains and 4 links to the said easterly line; thence southerly along said easterly line 6 chains and 56 links to the place of beginning. Containing 9 and 20/100 acres of land.

*Fifth.* All that tract or parcel of land, situate in said town of Massena, and known and distinguished as lot No. 11 in subdivision of lot No. 12 of the subdivision of tract H. in said town. Beginning at a stake in the center of the highway which leads from the north end of the bridge across Grasse river at Massena village to the St. Lawrence river road, said stake being the N. W. corner of lot No. 10 and running thence N. 18 degrees 40 minutes W. along the center of said highway 7 chains and 27 links to a stake at the S.W. corner of a lot now or lately of M. Andrews; thence N. 64 degrees 30 minutes E. along the southerly line thereof 8 chains and 96 links to a cedar stake in the easterly line of said lot No. 12; thence S. 25 degrees E. along said easterly line 7 chains and 56 links to a cedar post marked 10 & 11 at the N. E. corner of lot No. 10; thence S. 66 degrees 20 minutes W. along the northerly line of lot No. 10, 9 chains and 77 links to the place of beginning. Containing 6 and 93/100 acres of land, as surveyed by S. J. Farnsworth, November 7th, 1859.

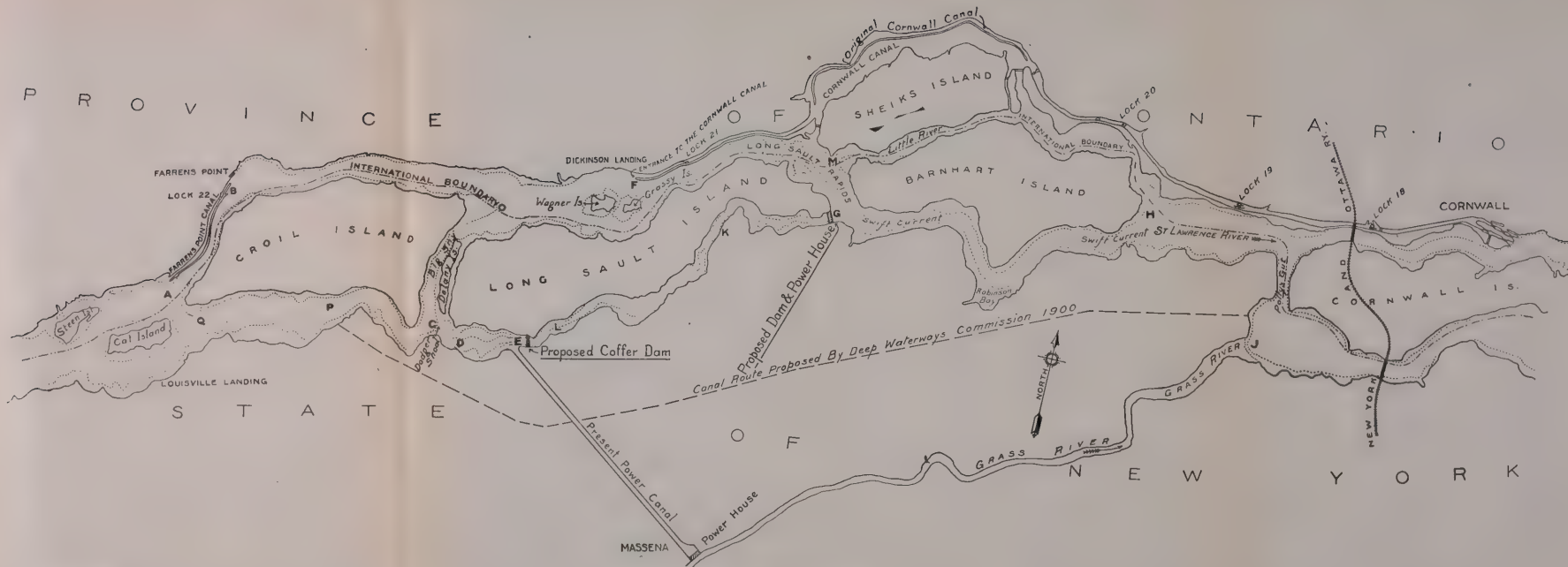
*Sixth.* All that tract or parcel of land, lying and being in the town of Massena, aforesaid, being known and distinguished as the southerly part of lot No. 18 in the subdivision of tract H. in Massena, aforesaid, and the S. easterly part of lot No. 15 in said tract, bounded as follows: Beginning at a cedar post, being the S. E. corner of said lot No. 18; thence S. 65 degrees W. (or nearly that) along the southerly line of said lot No. 18, 15 chains and 10 links to a cedar post and stones; thence N. 25 degrees 30 minutes W. parallel with the W. line of said lot No. 18, 15 chains to a



cedar post; thence N. 65 degrees E. 14 chains and 92 links to a cedar post standing in the east line of said lot No. 18; thence S. 26 degrees 15 minutes E. (or nearly that) along the easterly line of said lot No. 18, 15 chains to the place of beginning. Containing 22 and 53/100 acres of land. Together with the right of way, or privilege of passing from the above-described lands to the St. Lawrence road.

*Seventh.* All that tract or parcel of land situate in the town of Massena, aforesaid, and known and distinguished as a part of sub-division lot No. 12 of the subdivision of tract H. in said town. Beginning at a cedar post standing in the line between lots Nos. 12 and 13 and 34 chains and 82 links northerly from S. westerly corner of said lot No. 13, and running thence southerly along said line 6 chains and 77 links to the N. W. corner of lot now or lately of Thomas Barney, in said lot No. 13; thence S. 64 degrees 30 minutes W. 8 chains and 96 links to a stake in the centre of the highway which leads from the northerly end of the bridge at Massena village to the St. Lawrence river road; thence N. 18 degrees 40 minutes W. along the centre of said highway 6 chains and 81 links to a stake; thence 65 degrees E. 8 chains and 25 links to the place of beginning. Containing 5 and 82/100 acres of land.

*Eighth.* All that tract or parcel of land situate in the town of Massena, aforesaid, known and distinguished as twenty acres to be laid out in the N.W. corner of what will remain of lot No. 8 in tract H. after deducting 34 acres in a square lying around 11 acres in the N.W. corner of said lot. Also that other tract or parcel of land situate in Massena aforesaid, being parts of sub-division lots Nos. 8, 9 and 12 of the sub-divisions of tract H. in the said town of Massena. Beginning at an ironwood post and stones marked J. D. & H. R. standing in the line between said lots Nos. 8 and 9, 19 chains and 18 links southerly, from the N.W. corner of said lot No. 8, and running thence S. 24 degrees 40 minutes E. (as the magnetic needle pointed March 29th and 30th, 1859), along said line 8 chains and 11 links to a cedar post and stones marked A.R. and H.R. at the S.W. corner of A. Russell's part of said lot No. 9; thence N. 65 degrees E. 13 chains and 6 links to a cedar post and stones marked A.R. and H.R. standing in the line between lots Nos. 9 and 12; thence S. 26 degrees E. along the line between lots Nos. 9 and 12, 11 chains and 8 links to the S. westerly corner of that part of said lot No. 12 now or lately of A. Russell; thence N. 64 degrees 45 minutes E. along the southerly line thereof 11 chains and 95 links to a point in the centre of the highway which leads from the N. end of the bridge at Massena village to the St. Lawrence river road; thence S. 13 degrees E. along the centre of said highway 3 chains and 37 links to the N.E. corner of 22-acre lot now or lately of L. Danforth; thence S. 64 degrees 15 minutes W. along the N. line thereof 25 chains and 47 links to a point in the line between said lots Nos. 8 and 9; thence N. 24 degrees 45 minutes W. along the lines between said lots Nos. 8 and 9, 9 chains and 64 links to a post and stones at the N.E. corner of 20-acre lot now or lately of H. Reynolds; thence S. 65 degrees W. along the northerly line thereof 13 chains and 88 links to a post in the line between lots Nos. 5 and 8; thence N. 24 degrees 45 minutes W. along said line 12 chains and 96 links to an iron-wood post or tree marked J.D. and H.B. at the S.W.







corner of the 12-acre lot now or lately of James Danforth; thence N. 65 degrees E. along the line thereof 13 chains and 90 links to the place of beginning. Containing 41 acres of land.

Also all that other tract or parcel of land situate in the town of Massena aforesaid, known and distinguished as part of subdivision 8 in said tract H. in the town of Massena, and bounded as follows: Beginning at a line stone, standing in the line between subdivisions lots Nos. 8 and 9 in said tract at the S. westerly corner of a lot now or lately owned by James Danforth, and run from thence S. 64 degrees 50 minutes W. 13 chains and 88 links to a cedar post and stones marked H. R. 1856, standing in the line between sub-division lots Nos. 5 & 8 in said tract; thence N. 24 degrees 45 minutes W. along said line between said sub-divisions lots 5 & 8, 4 chains and 57 links to the S. Westerly corner of a lot of 20 acres now or lately owned by Hugh Reynolds; thence N. 64 degrees 50 minutes E. along the southerly line of said 20 acres 13 chains and 89 links to the line between said lots 8 & 9 at the S. easterly corner of said 20 acres; thence S. 24 degrees 45 minutes E. 4 chains and 51 links to the place of beginning. Containing 6 and  $34/100$  acres of land.

Also all that tract or parcel of land situate in the town of Massena, aforesaid, known and distinguished as ten acres of land in lot No. 16, in tract H. in said town of Massena, to be laid out in a square form as nearly as may be in the N. W. corner of said lot, as the same was conveyed to David C. Judson by the Controller of the State of New York by deed bearing date April 4th, 1823.

Also all that tract or parcel of land situate in the town of Massena, county of St. Lawrence, and State of New York, being known and distinguished upon the map of said town as a part of sub-division Lot. No. 15 of the sub-division of tract H. and bounded as follows: Beginning at the southwesterly corner of Lot No. 15, aforesaid, a cedar post and stones, marked Nos. 13, 14, 15 & 16 and running thence 24 degrees 55 minutes W., as indicated by the magnetic needle March 19th, 1877, along the westerly line of said lot 17 chains and 67 links to a cedar post at the southeasterly corner of the farm now or lately of L. A. Robinson, and formerly known as the Davis farm; thence N. 25 degrees 10 minutes W. still along the westerly line of Lot No. 15 aforesaid, 3 chains and 55 links to a cedar post marked M.B.A. 1877; thence N. 65 degrees E. 11 chains and 55 links to a cedar post, marked M.B.A. 1877, and standing in the westerly line of the farm formerly known as the Stephen Hutchens farm and known as the Sutton line; thence S. 25 degrees 3 minutes E. along the last described line 21 chains and 33 links to a cedar post and stones in the southerly line of Lot No. 15 aforesaid, being the southwesterly corner of the Hutchens farm aforesaid; thence S. 65 degrees W. along the southerly line of Lot No. 15 11 chains and 59 links to the place of beginning. Containing twenty-four acres and  $59/100$  acres of land.

Together with the appurtenances.

The foregoing eleven parcels of land, last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Justin B. Andrews and wife by deed dated September 27, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 7, 1897, in liber 149 C of deeds, page 1489.

7. All that tract or parcel of land situate in the town of Massena, known as the Eli Dodge farm: Beginning at a point on the south shore of the St. Lawrence river at high water mark and where the same is intersected by the town line between the towns of Massena and Louisville, and running thence, S. 23 deg. E. along said town line as indicated by the magnetic needle April 8, 1896, 50 chains; thence at right angles N. 67 deg. E. 23 chains; thence at right angles and parallel with the town line N. 23 deg. W. 11 chains 34 links to a point in the west shore of Dodge Creek; thence in a line from said point to the centre of the highway bridge across said creek and dividing the creek as near as may be N. 67 deg. E. 30 chains 87 links to a point in the centre of said bridge, thence S. 76 deg. 30' W. along the centre of the highway 2 chains 18 links to a point in the centre of said highway; thence N. 23 deg. W. 7 chains to the south shore of the St. Lawrence river at high water mark; thence westerly along the shore of said river to the place of beginning. Containing 136 & 12/100 acres more or less, from which must be excepted one-quarter acre of land occupied by the town line school house, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Hiram H. Dodge and wife by deed dated October 6, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 9, 1897, in liber 149 B. of deeds, page 1222.

8. All that tract or parcel of land, being part of lot seven, tract H. of the town of Massena, St. Lawrence County, N.Y., and bounded and described as follows:—

Beginning at a cedar hub at the brink of the bank of the St. Lawrence river (located at the N. E. corner of the farm now or lately of Benjamin Sutton and the same being the corner between said Sutton's property and the property now or lately of Fred. J. Hyde) and running thence S. twenty-two degrees twenty-seven minutes E. 1792 & 5/10 feet to a cedar hub in the line fence; thence S. 22 degrees 15 minutes E. 1442 & 19/100 feet to a stone monument at the S. E. corner of said Sutton's farm, the same being the corner with said land now or lately of Fred. J. Hyde; thence S. 68 degrees 12 minutes W. 949 & 36/100 feet to a cedar hub, the same being the corner between farms now or lately of Sutton, Fred. J. Hyde and Israel Dodge; thence N. 21 degrees 44 minutes W. 333 & 29/100 feet to a cedar hub on the Israel Dodge line; thence N. 20 degrees 14 minutes W. 1795 & 33/100 feet to a cedar post, the same being the corner between the farms now or lately of Israel Dodge, Elizabeth Dodge and Benjamin Sutton; thence N. 21 degrees 50 minutes W. 1501 & 54/100 feet to the brink of the bank of the St. Lawrence river at a cedar hub, the same being the boundary between the said farms now or lately of Elizabeth Dodge and said Benjamin Sutton; thence following the various winding of said brink of the bank of the St. Lawrence river to the place of beginning, containing 70 & 72/100 acres of land, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Benjamin Sutton and wife by deed dated November 15, 1897, and recorded in the office of the Clerk of St. Lawrence County, November 18, 1897, in liber 150 C of deeds, page 1284.

9. All that piece or parcel of land situate in the town, county and state aforesaid, described as follows: Beginning at a stone standing at the foot

of a bar post at the southeast corner of the farm now or lately occupied by Benjamin Sutton and running thence south 68 degrees West 13 chains and 42 links; thence south 22 degrees east 10 chains and 83 links to a cedar stake; thence north 67 degrees east thirteen chains and fifty links to a cedar stake; thence north 22 degrees west 10 chains and 70 links to the place of beginning. Containing fourteen acres of land as surveyed November 14, 1895, by P. B. Flaherty.

Also all that other piece or parcel of land situate in the town of Massena aforesaid and bounded and described as follows: Beginning at a corner where the lands now or lately of Benjamin Sutton, William Alden and Fred J. Hyde join, and running thence in an easterly direction along the boundary between said lands now or lately of Fred J. Hyde and William Alden, a distance of 1,034 feet 4 and  $\frac{3}{4}$  inches; thence deflecting to the left 124 degrees 21' 30" and running in a northwesterly direction a distance of 1,764 feet and 2 and  $\frac{1}{2}$  inches to the line between lands now or lately of Benjamin Sutton and Fred J. Hyde; thence deflecting again to the left 144 degrees 7' and running in a southerly direction along the boundary between lands now or lately of said Benjamin Sutton and Fred J. Hyde a distance of 1,465 feet and 10 and  $\frac{3}{4}$  inches to the point or place of beginning. Containing seventeen and two hundred forty-four one-thousands (17 and 244/1000) acres of land, be the same more or less, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Fred J. Hyde and wife by deed dated October 11, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 13, 1897, in Liber 149 B of Deeds, page 1248.

10. All that tract or parcel of land situate in the town of Massena aforesaid, and being known and distinguished as a part of the Mile Square, known as the Indian Reservation in said town. Beginning at a pine post marked J. L. H. & Wm. H. P. and standing in the northerly line of said reservation and 27 chains and 25 links westerly from the northeast corner thereof, and being the northwesterly corner of the lot now or lately of J. L. Hyde, known as the Haskell lot and running thence S. 64 deg. 55' W. (as indicated by the magnetic needle on the 27th of March, 1868) along the reservation line aforesaid 10 chains 44 links to a cedar post and stones marked No. 17 and 20 at the southwesterly corner of subdivision lot No. 20 of the subdivision of tract H; thence S. 26 deg. 45' E. 26 chains 46 links to a point in the centre of the highway which leads from Massena Village to Massena Center; thence N. 50 deg. E. along the center of said highway 9 chains 35 links to where the same is intersected by the westerly line of J. L. Hyde's lot aforesaid; thence N. 23 deg. 45' W. along the westerly line of said Hyde's lot aforesaid and east bounds of the Sharp road 24 chains 4 links to the place of beginning—containing 24. 59/100 acres of land as surveyed March 27, 1868, by S. J. Farnsworth, licensed surveyor and C. E.

Also all that other piece or parcel of land situate in said town of Massena, and being part of Mile Square, known as Indian Reservation, and bounded and described as follows: Beginning in the center of the highway which leads from the north end of the iron bridge at Massena village along down the northerly side of the Grasse river to Massena Center, and at a point where the same would be intersected by extending the easterly line of



the highway commonly called the Sharp road, said point being the northeasterly corner of lands now or lately of Abel Haskell and running thence easterly along the center of said first described highway 1 chain 60½ links; thence S. 22 deg. 45' E. as indicated by the magnetic needle September 28, 1883, parallel with the easterly line of said Haskell's land 3 chains 47 links to a pine stake in the northerly line of said Haskell's land; thence S. 67 deg. 15' W. along the northerly line of said Haskell's land 1 chain 54 links to a stake and stones at the corner thereof; thence N. 22 deg. 45' W. along the easterly line of said Haskell's land 3 chains 2 links to the place of beginning. Containing ½ of an acre of land as surveyed September 28, 1883, by S. J. Farnsworth, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Michael H. Flaherty and others by deed dated September 15, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 21, 1897, in liber 150 A of Deeds, page 11.

11. All that piece or parcel of land known as part of lot 7, tract H, and bounded as follows: Beginning at a stone standing at the foot of a bar post at the S.E. corner of the farm now or lately occupied by Benjamin Sutton, and running thence south 68 degrees W. 14 chains 34 links to a cedar stake; thence S. 22 degrees E. 10 chains 83 links to a cedar stake; thence north 67 degrees E. 14 chains 42 links to a cedar stake, and thence north 22 degrees W. 10 chains 70 links to the place of beginning. Containing fifteen acres of land as surveyed by P. B. Flaherty, November 14th, 1895, excepting and reserving, however, the following described piece or parcel of land: Beginning at a stone standing at the foot of a bar post at the southeast corner of the farm now or lately occupied by Benjamin Sutton, and running thence South 68 degrees E. 10 chains 83 links to a cedar stake; thence N. 67 degrees E. 13 chains 50 links to a cedar stake, and thence north 22 degrees W. 10 chains 70 links to the place of beginning. Containing fourteen acres of land as surveyed by P. B. Flaherty, Nov. 14th, 1895, heretofore conveyed to Fred J. Hyde by Charles F. Ober and wife, the premises intended to be described being about one acre of land situate on the westerly side of the Fred J. Hyde fourteen acre lot, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Charles F. Ober and wife, by deed dated September 27, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 28, 1897, in liber 149 B of Deeds, page 1131.

12. All that piece or parcel of land situate in the town of Massena, in tract H, being part of lots 3 and 6. Beginning at a post on the bank of the river St. Lawrence, being the northwest corner of lot No. 7 and the northeast corner of lot No. 6 and running thence along the line between lots 6 and 7 S. 25° E. 39 chains 34 links to a hemlock post; thence S. 63° 30' W. 13 chains 58 links to a hemlock post; thence S. 25° 15' E. 15 chains 50 links to a hemlock post; thence S. 64° W. 16 chains 50 links to an iron-wood post; thence N. 25° 30' W. 7 chains 50 links to a hemlock post; thence N. 64° E. 9 chains 47 links to a hemlock post; thence N. 25° 15' W. 21 chains 30 links to a hemlock post and stones on the west bank of the creek; thence northerly down the centre of said creek and along the easterly bounds of land now or lately of Eli Dodge to a point on the bridge in the highway 12 links west from the centre of said bridge; thence along

the centre of the highway S.  $74^{\circ}$  W. 1 chain 91 links; thence N.  $26^{\circ}$   $30'$  W. 6 chains 72 links to the bank of the river St. Lawrence at a post and stones; thence down the bank of said river to the place of beginning. Containing 75 and 60/100 acres of land as conveyed by Bishop Perkins and others to William Dodge by deed dated September 17th, 1850; recorded May 19th, 1857, liber 54 C, page 549.

Also all that other piece or parcel of land conveyed by Uriel H. Orvis and wife to William Dodge by deed dated October 15th, 1852, recorded May 19th, 1857, Liber 54 C of deeds, page 551, being the tax lot theretofore conveyed to Uriel H. Orvis by the comptroller of the state of New York, and described as follows: eighteen and one-half acres, to be laid out in a square form as near as may be in the northwest corner of what would remain of lot No. 6, tract H. Massena, after deducting 55 and one-half acres off the northerly part of said lot.

Excepting, however, from the first described piece or parcel of land, all that piece or portion conveyed by William Dodge and wife to Stewart Wilson by deed dated October 15th, 1852, recorded October 20th, 1852, Liber 45 C, page 427, and being all that certain piece or parcel of land situate in the town of Massena, in lot No. 3, tract H, and described as follows: Beginning at a hemlock post, the southeast corner of said lot, thence S.  $64^{\circ}$  W. 16 chains 50 links to an ironwood post; thence N.  $25^{\circ}$   $30'$  W. 7 chains 50 links to a hemlock post; thence N.  $64^{\circ}$  E. 16 chains 50 links to a cedar post; thence S. 7 chains 50 links to the place of beginning. Containing 12 and  $\frac{3}{8}$  acres of land.

Also excepting from the first above-mentioned piece twenty-five acres off the northerly end thereof as conveyed to Elizabeth Dodge by the will of William Dodge, deceased, which said will is recorded in St. Lawrence County Clerk's office in Liber 7 of Wills, page 361.

The intention being to describe all of the William Dodge farm, so called, in the town of Massena, and occupied by him in his lifetime, except the afore-mentioned pieces conveyed to Stewart Wilson and Elizabeth Dodge, the premises hereby described containing 56 & 72/100 of an acre of land, more or less. Together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Israel Dodge and wife and Jennie Dodge by deed dated September 27, 1897, and recorded in the office of the clerk of St. Lawrence County, September 28, 1897, in liber 149 B of deeds, page 1128.

13. All that piece or parcel of land, situate in the town of Massena, and in Mile Square known as Indian Reservation, described as follows: Being known as the Haskell mill property, and the other property adjacent thereto, now or lately occupied by Abel Haskell, and situate upon both sides of the Grasse River, and including the bed of the river, and described as follows: That portion upon the north side of Grasse river, being bounded on the north by the center of the highway leading from Massena village to Massena center and a small lot of about half an acre formerly belonging to Clark and Flaherty, and now the property of the St. Lawrence Power Company of Massena, New York, and also lands formerly belonging to J. L. Hyde, and now the property of the St. Lawrence Power Company of Massena, New York; on the east by the aforesaid lands, formerly belonging to Clark and Flaherty and J. L. Hyde; on the west by a lot of land now or

lately belonging to Sallie Sharp, and also a lot now or lately belonging to Andrew Gongoeau. The portion situate upon the southerly side of said river, being bounded on the west by lands now or lately belonging to Fred Bailey; on the south by the center of the highway; on the west by lands known as the Dilcox property.

Also all that other piece or parcel of land being all the right, title and interest formerly of Abel Haskell in and to all lands within said Indian Reservation, and being the bed of the Grasse River, the intention being to describe all the right, title and interest owned by Lemuel Haskell at the time of his death in and to the lands known as the Indian Reservation, excepting, however, therefrom, 178 & 47/100 acres of land as conveyed by Abel Haskell to Martha Derby and Laura Sterns, by deed dated September 28th, 1872, recorded March 14th, 1873. And also excepting about one acre of land on the northerly side of said river as conveyed by the said Abel Haskell to Sally Richards, by deed dated July 28th, 1881, recorded August 31, 1881, Liber 114 C of Deeds, page 131. And also reserving to the said Abel Haskell out of the premises hereby intended to be described, for and during his natural life the use and occupancy of that portion of the premises intended to be described, bounded and described as follows: on the south by the highway leading easterly from Massena village past said premises; on the west by the line between the premises hereby intended to be described and the adjoining premises; on the north by the line running easterly from said westerly line through the most southerly of three small elm trees standing near the westerly line to the northwesterly corner of the stone house, and in a line to a point twenty feet easterly of the "Spring House"; on the east by a line at right angles with the last mentioned line to the highway.

Together with the free and undisturbed right of way through the part of the premises in which a life estate is herein reserved through and over two lanes now in use, and all and every right which may be reserved to said Abel Haskell or his grantor in any part or portion of said Mile Square, Indian Reservation.

Being the same premises conveyed to the St. Lawrence Power Company, of Massena, New York, by Abel Haskell by deed dated November 15, 1897, and recorded in the office of the Clerk of St. Lawrence County, November 18, 1897, in Liber 150 C of Deeds, page 1282.

14. All that tract or parcel of land situate in the town of Massena, County of St. Lawrence and State of New York, to wit, all that part of lot No. 16 tract H. bounded as follows:

Beginning at a post standing on the northeasterly corner of said lot; thence southerly along the easterly line of said lot 59 chains and 43 links to a post; thence south 62 degrees west 14 chains and 68 links to a post in the westerly line of said lot; thence northerly along said westerly line 49 chains and 43 links to a post being the southwest corner of ten acres sold for taxes; thence North 62 degrees east 10 chains to a post; thence northerly parallel with the westerly line of said lot 10 chains to the northerly line of said lot; thence easterly along said northerly line 5 chains and 56 links to the place of beginning. Containing eighty and twenty-four hundredths acres of land, being the whole of said lot No. 16, except fifty and one-half acres on the south end and ten acres in the N. W. corner, it being the intention to describe all of said lot except said 50½ and 10 acres.



Also all that other certain piece or parcel of land situate in said town of Massena, County of St. Lawrence and State of New York, known and described as follows: Being all that piece or parcel of land, and part of lot No. 17, tract H. described as follows:

Beginning at a post standing in the northeasterly corner of said lot, thence southerly along the easterly line thereof 49 chains 121 links to a post; thence S. 62 degrees W. 11 chains 72 links to a post in the westerly line of said lot; thence northerly along said westerly line 39 chains and 64 links to a post, being the southwesterly corner of 9 acres sold for taxes; thence N. 62 degrees E. 9 chains and 49 links to a post; thence northerly parallel with the westerly line of said lot 9 chains and 48 links to the northerly line of said lot; thence easterly along said northerly line 1 chain and 56 links to the place of beginning. Containing 46 & 89/100 acres of land, being the whole of said lot No. 17, excepting 53 &  $\frac{3}{4}$  acres of land on the southerly end of said lot, and 9 acres on the northwesterly corner thereof.

Also that certain piece or parcel of land, being a part of said lot No. 17, tract H. heretofore mentioned as 9 acres sold for taxes, and being the same premises mentioned and described in a deed from David C. Judson to John B. Andrews of Massena, dated November 1st, 1838, and recorded in St. Lawrence County Clerk's office, the 9th day of April, 1839, in Book No. 29 of Deeds, pages 453 and 454.

Also all that certain other piece or parcel of lot No. 17, tract H. heretofore mentioned, being described as follows: Beginning at a cedar post standing in the northeasterly line of said lot No. 17, and at the northeasterly corner of a lot of 53 &  $\frac{3}{4}$  acres subdivided off from the southerly end of said lot in the year 1838 by Philo Barber, and known as the "tax lot," and running thence south 26 degrees 30 minutes E along the northeasterly line of said lot 8 chains and 99 links to a cedar post initialed A.H.A., and W.H.P. 1865; thence S. 64 degrees 50' W. 11 chains and 65 links to a hemlock post in the southwesterly line of said lot; thence N. 25 degrees W. along said southwesterly line 8 chains and 90 links to the northwesterly corner of said 53 &  $\frac{3}{4}$  acre lot; thence N. 64 degrees 25 minutes E. along the northwesterly line thereof 11 chains and 41 links to the place of beginning. Containing 10 acres and  $\frac{33}{100}$  acres of land, as surveyed February 3rd, 1865, by S. J. Farnsworth, and being the same premises conveyed to Alexander H. Andrews by William Paddock and wife by deed dated May 19th, 1865, and recorded in St. Lawrence County Clerk's office the 14th day of June, 1865, in Liber 72 C of Deeds, at page 164, &c.

Also all that certain other piece or parcel of land being the whole lot of No. 20 tract H. in the town and county aforesaid, excepting therefrom fifteen acres sold and conveyed to one William Leao and containing 92 and  $\frac{71}{100}$  acres, the intention being to describe all of said lot No. 20, tract H. excepting said fifteen acres, together with the appurtenances.

The foregoing five parcels of land, last above described, being the same premises conveyed to the St. Lawrence Power Company, of Massena, New York, by Alexander H. Andrews by deed dated July 31, 1897, and recorded in the office of the Clerk of St. Lawrence County, August 7, 1897, in Liber 149 A of Deeds, page 632.

15. All those certain lots, pieces and parcels of land situate, lying and being in the town of Massena, St. Lawrence County, New York, and bounded and described as follows:

(a) Beginning at a point in the center of the highway leading north from Massena village to the St. Lawrence river, where the southerly line of the premises now or lately owned by Charles F. Ober intersects the center line of said highway, and thence running north 66 degree 30' east, along the said southerly line of Ober's premises nine hundred and nineteen (919) feet; thence south 24 deg. 10' east, along the boundary line of land lately owned by Justin B. Andrews eleven hundred and sixty-two (1162) feet; thence south 65 deg. 60' west, still along the boundary line of land lately owned by Justin B. Andrews, nine hundred and nineteen (919) feet to the center of said highway; thence along the center of said highway North 24 deg. West, eleven hundred and seventy-six (1176) feet to the point or place of beginning and containing about twenty-four and  $\frac{78}{100}$  ( $24\frac{78}{100}$ ) acres.

(b) Beginning at a point in the center of said highway where the southerly line of the premises lately owned by William Alden intersects the center line of said highway, and thence running south 66 deg. 30' west along the said southerly line of said Alden premises twenty-six hundred and seventeen and  $\frac{90}{100}$ ths ( $2617\frac{90}{100}$ ) feet to a point in the line between said Alden premises and the premises now or lately belonging to Cleary and Bridges, thence south 24 deg. 29' 40" east, along the easterly line of said Cleary and Bridges premises six hundred and ninety-seven and  $\frac{51}{100}$  ( $697\frac{51}{100}$ ) feet to a point where said easterly line intersects the northerly line of premises lately owned by Justin B. Andrews; thence north 66 deg. 47' 10" east along the said northerly line of the said J. B. Andrews' premises and the northerly line of premises now or lately owned by one J. Coughlin nine hundred and thirty-one and  $\frac{67}{100}$ ths ( $931\frac{67}{100}$ ) feet to a point in the easterly line of said Coughlin premises; thence south 21 deg. 48' 20" east, along the said easterly line of said Coughlin premises and also along the easterly line of said Andrews premises six hundred and four and  $\frac{14}{100}$ ths ( $604\frac{14}{100}$ ) feet to a point where said easterly line intersects the northerly line of premises now or lately owned by William Scarborough; thence north 67 deg. 32' 20" east along the said northerly line of said Scarborough premises sixteen hundred and ninety-seven and  $\frac{90}{100}$  ( $1,697\frac{90}{100}$ ) feet to the centre line of said highway; thence north 23 deg. 44' 30" west along the said center line of said highway thirteen hundred and thirty-seven and  $\frac{75}{100}$ th ( $1,337\frac{75}{100}$ ) feet to the point or place of beginning, and containing about sixty-six acres.

The said above described and bounded premises constituting a small farm lying upon both sides of the said highway and being the premises heretofore known as the "Lockwood Farm" in the said town of Massena, which was devised unto Alva B. Lockwood by the last will and testament of Gaylord P. Lockwood, dated May 1, 1879, and was conveyed by the said Alva B. Lockwood to De Witt C. Erwin by deed dated September 30, 1897, and recorded in the St. Lawrence County Clerk's office in Liber 149B of Deeds at page 1171 on October 1, 1897, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by De Witt C. Erwin and wife by deed dated March 29, 1898, and recorded in the office of the Clerk of St. Lawrence County, April 1, 1898, in Liber 151C of Deeds, page 1286.

Together with the canal constructed on, in or over said lands or part thereof, from a point on the St. Lawrence river at or near Dodge's creek to a point on the Grasse river at or near the Town of Massena, in said County of St. Lawrence and State of New York, with all the headgates, dams, sluices, conduits, power houses, machinery and appurtenances of every kind and nature together with all the rights of way for the said canal or works, and all lands acquired by the Power Company for use in connection with the said canal or appurtenant or adjoining thereto, and all machinery, fixtures, dredges and other tools, implements and moveables of every kind acquired for use in connection with the operation of the canal and works of the Power Company, together with all and singular the tenements, hereditaments and appurtenances belonging to the property or in anywise thereto appertaining, and the reversions, remainders, tolls, incomes, rents, uses and profits thereof, and also all of the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity of the Power Company, of, in and to the same, and any and every part thereof, with the appurtenances, together with all the rights, privileges and franchises, corporate, public or municipal, of the Power Company, pertaining thereto, and all contracts and leases made by the Power Company for power to be furnished by the Power Company, excepting and reserving, however, a right of way for a railroad and the railroad thereon constructed extending through the land hereinbefore described from the highway and the south side of the Grasse river to the power house of the Power Company, and excepting and reserving also the land and premises described as follows, namely:

Beginning at a stone monument marked LV standing in the south bounds of the highway known as East Centre street in the village of Massena on the line between the lands now or lately of the St. Lawrence Power Company of Massena, New York, and the lands now or lately of Susan A. Paddock and running thence easterly along the said highway 532.65/100 feet to a stone monument marked LVIII on the margin of said highway; thence south  $17^{\circ} 23' 42''$  east 320 31/100 feet to a stone monument marked LVII at high water mark of the Grasse river; thence westerly along the said Grasse river following the windings thereof about 690 feet to a stone monument marked LVI standing on the line between properties now or lately of the St. Lawrence Power Company of Massena, New York, and the aforesaid Susan A. Paddock, at highwater mark of the Grasse river; thence north  $6^{\circ} 51' 59''$  east 379 10/100 feet to the place of beginning.

To have and to hold all and singular the above-mentioned and described premises, properties, and franchises hereby conveyed unto the said Mark T. Cox, his heirs, executors, administrators and assigns forever as fully and completely as said Power Company, defendant in said cause, held or enjoyed the same at the time of the entry of said decree of foreclosure, or held or enjoyed, or was entitled to hold or enjoy the same at the time of the execution of the said first mortgage, bearing date September 14, 1897, or said mortgage bearing date June 20, 1900, or at any time since, and freed and discharged from the lien and encumbrances of the said mortgages, and each of them, and from the equity of redemption, and claims of all other parties to said cause, and those claiming under them, as fully and as absolutely as the said J. De Peyster Lynch, Special Master, aforesaid, may or ought by authority of said decrees to convey the same.



And this indenture further witnesseth, that the said party of the fourth part and his assigns shall have the right within ninety days after the confirmation of said sale and the delivery hereof and being put into possession of the property hereby conveyed, to elect whether or not to assume any leases and contracts made by the Power Company, or by any one on its behalf, and shall only be held to have assumed such of said leases and contracts as he or they shall elect to assume by filing a written notice to that effect with the Clerk of the Circuit Court of the United States for the Northern District of New York at his office and with the other party or parties to said leases or contracts at any time within said ninety days.

And this indenture further witnesseth, that the said Commercial Trust Company of New Jersey and Morristown Trust Company, as Trustees under said first mortgage, dated September 14, 1897, and The Standard Trust Company of New York and United States Mortgage and Trust Company, as Trustees under said mortgage, dated June 20, 1890, parties of the second part, for and in consideration of the premises, and of the sum of one dollar, lawful money of the United States of America, paid by the party of the fourth part, the receipt whereof is hereby acknowledged, and in pursuance of said decrees, have severally conveyed and quit-claimed, and hereby do severally convey and quitclaim to the said party of the fourth part, his heirs, executors, administrators and assigns forever, all their and each of their right, title and interest under the said respective mortgages in and to said premises, properties, and franchises, hereinbefore described and conveyed by the said party of the first part as Special Master to the party of the fourth part. To have and to hold all and singular the said premises, properties and franchises unto the said party of the fourth part, his heirs, executors, administrators and assigns forever.

And this indenture further witnesseth that the said St. Lawrence Power Company, of Massena, New York, for and in consideration of the premises, and of the sum of one dollar of lawful money of the United States of America, paid by the party of the fourth part, the receipt whereof is hereby acknowledged, and, in pursuance of said decrees, has granted, bargained, sold, assigned, transferred, conveyed and released, and by these presents does grant, bargain, sell, assign, transfer, convey and release unto the party of the fourth part, his heirs, executors, administrators and assigns, forever, all the right, title and interest of the said St. Lawrence Power Company of Massena, New York, to and in the said premises, properties, and franchises hereinbefore described and conveyed by the party of the first part, as Special Master, to the party of the fourth part. To have and to hold, all and singular the said property, rights and franchises unto the said party of the fourth part, his heirs, executors, administrators and assigns forever.

No personal covenant or liability is to be implied from this deed against the said parties of the first, second, or third parts or against any of them.

In witness whereof, the party hereto of the first part has hereunto set his hand and seal, and the parties of the second and third parts have caused these presents to be duly executed in their respective corporate names, by their respective presidents or vice-presidents, and their respective corporate

seals to be hereunto duly affixed and attested by their respective secretaries the day and year first above written.

J. DE PEYSTER LYNCH,

*Special Master.* [L.S.]

Signed, sealed, acknowledged  
and delivered by said J. De  
Peyster Lynch in the pre-  
sence of: }

A. H. GREEN, Jr.

COMMERCIAL TRUST COMPANY OF NEW JERSEY,

JOHN W. HARDENBURGH,

*President.*

Attest:

*Secretary.*

[SEAL]

Signed, sealed, acknowledged  
and delivered on behalf of  
the Commercial Trust Com-  
pany of New Jersey, in the  
presence of: }

MARSHALL VAN WINKLE.

MORRISTOWN TRUST COMPANY.

By SAMUEL FREEMAN,

*President.*

[SEAL]

Attest:

JNO. H. DORINE,

*Secretary.*

Signed, sealed, acknowledged  
and delivered on behalf of  
the Morristown Trust Com-  
pany in the presence of: }

WILLARD W. CUTLER.

THE STANDARD TRUST COMPANY OF NEW YORK.

By WM. C. LANE,

*President.*

[SEAL]

Attest:

WM. C. COX,

*Secretary.*

Signed, sealed, acknowledged  
and delivered on behalf of  
The Standard Trust Com-  
pany of New York in the  
Presence of: }

NOEL GALE.

UNITED STATES MORTGAGE AND TRUST COMPANY,

By ARTHUR TURNBULL,

*Vice-President.*

Attest:

[SEAL]

C. WILLIAMS,

*Treasurer.*

Signed, sealed, acknowledged  
and delivered on behalf of  
the United States Mortgage  
and Trust Company in the  
presence of: }

NOEL GALE.

ST. LAWRENCE POWER COMPANY OF MASSENA, NEW YORK.

By WM. F. ZIMMERMAN,

*Vice-President.*

Attest:

R. CHIFFINGWELL,

*Secretary.*

[SEAL]

Signed, sealed, acknowledged  
and delivered on behalf of  
the St. Lawrence Power Com-  
pany of Massena, New York,  
in the presence of: }

JOHN T. TUOMEY.

State of New York

Oneida County Clerk's Office.

} ss:

I, George D. Frank, acting clerk of said county, and of the Supreme and County Courts, therein, the same being Courts of Record, DO HEREBY CERTIFY that C. LANSING JONES, whose name is subscribed to the certificate to the proof or acknowledgment of the annexed instrument, and thereon written, was at the time of taking such proof or acknowledgment a Notary Public for said county, dwelling in said county, and sworn and duly authorized to take the same. And further, that I am well acquainted with his handwriting and verily believe that the signature to the certificate of said proof or acknowledgment is genuine. And further, that said instrument is executed and acknowledged according to the Laws of the State of New York.



In testimony whereof I have hereunto set my hand and affixed the seal of said County and Courts, at the City of Utica, this 15th day of December, 1902.

GEO. D. FRANK, *Act. Clerk.*

State of New York }  
County of Oneida. } *ss.*

On this 24th day of November, 1902, before me personally came J. DePeyster Lynch, to me known, and known to me to be the individual described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same.

C. LANSING JONES,

*Notary Public,  
Oneida Co., N.Y.*

[SEAL]

State of New Jersey }  
County of Hudson. } *ss.*

On this 10th day of December, 1902, before me personally came John W. Hardenburgh, to me known, and being by me duly sworn did depose and say that he resided at Jersey City, in Hudson County, N.J.; that he is the President of Commercial Trust Company of New Jersey, one of the corporations described in, and which executed the above instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

MARSHALL VAN WINKLE,

*Master in Chancery, N.J.*

[SEAL]

State of New Jersey }  
County of Hudson. } *ss.*

I, Maurice J. Stack, Clerk of the County of Hudson aforesaid, and also Clerk of the Circuit Court and Court of Common Pleas for said County, said Courts being Courts of Record, with a seal, do hereby certify that Marshall Van Winkle, the Master in Chancery, before whom the within acknowledgment was made, was at the time of taking the same commissioned and sworn and duly authorized by the laws of the State of New Jersey to take for record in said State all affidavits and acknowledgments and proofs of deeds of conveyances for lands, tenements and hereditaments situate, lying and being in said State of New Jersey. And, further, that I am well acquainted with the handwriting of such Master in Chancery, and verily believe that the signature to said certificate of proof or acknowledgment is genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Courts and County the 10th day of December, 1902.

MAURICE J. STACK,

*Clerk.*

[SEAL]

State of New Jersey }  
County of Morris. } ss.

On this 13th day of December, 1902, before me personally came Samuel Freeman, to me known, and being by me duly sworn did depose and say that he resided at Morristown in the State of New Jersey; that he is the President of the Morristown Trust Company, one of the corporations described in and which executed the above instrument; that he knew the seal of said corporation; that the seal affixed to the said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

WILLARD W. CUTLER,

[SEAL]

*Master in Chancery, N.J.*

State of New Jersey }  
County of Morris. } ss.

I, Daniel S. Vorhees, Clerk of the County of Morris, and also Clerk of the Court of Common Pleas in and for said County, the same being a Court of Record, do hereby certify that Willard W. Cutler, whose name is subscribed to the certificate of acknowledgment of the annexed instrument, was at the date thereof a Master in Chancery of the State of New Jersey, residing in said County, duly commissioned and qualified and fully authorized by the Laws of said State to take the acknowledgment and proof of Deeds, Mortgages and Conveyances of Real Estate in said County and State. That I am well acquainted with the handwriting of said Master in Chancery and verily believe that the name subscribed to the said certificate is the genuine certificate of him, the said Master in Chancery.

In testimony whereof I have hereunto set my hand and affixed the seal of said Court and County at Morristown, this 13th day of Dec., A.D. 1902.

DANIEL S. VORHEES.

[Seal.]

State of New York }  
County of New York. } ss.

On this 28th day of November, 1902, before me personally came William C. Lane, to me known, and being by me duly sworn did depose and say that he resided in the City of New York; that he is the President of the Standard Trust Company of New York, one of the corporations described in and which executed the above instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

PAUL S. O'CONNOR,

*Notary Public.*

[Seal.]

State of New York }  
County of New York. } ss.

I, Thomas L. Hamilton, Clerk of the County of New York, and also Clerk of the Supreme Court for the said County, the same being a Court of Record, hereby certify that Paul S. O'Connor, whose name is subscribed to the certificate of the proof or acknowledgment of the annexed instrument and thereon written, was, at the time of taking such proof or acknowledgment, a Notary Public in and for the County of New York, dwelling in the said county, commissioned and sworn, and duly authorized to take the same. And further, that I am well acquainted with the handwriting of such notary, and verily believe that the signature to the said certificate of proof or acknowledgment is genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Court and County this 28th day of November, 1902.

[Seal]

THOS. L. HAMILTON.

State of New York }  
County of New York. } ss.

On this 10th day of December, 1902, before me personally came Arthur Turnbull, to me known, and being by me duly sworn did depose and say that he resided at New York, in New York, that he is the Vice-President of the United States Mortgage and Trust Company, one of the corporations described in and which executed the above instrument; that he knew the seal of said corporation that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

E. G. BABCOCK,

*Notary Public Kings Co. Corrected*

[Seal]

*Certificate filed in N.Y. County.*

State of New York }  
County of New York. } ss.

I, Thomas L. Hamilton, Clerk of the County of New York, and also Clerk of the Supreme Court for the said County, the same being a Court of Record, do hereby certify that E. G. Babcock has filed in the Clerk's Office of the County of New York a certified copy of his appointment and qualification as Notary Public for the County of Kings with his autograph signature, and was at the time of taking the proof or acknowledgment of the annexed instrument duly authorized to take the same. And further that I am well acquainted with the handwriting of such notary, and believe the signature to the said certificate of proof or acknowledgment to be genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Court and County the 18th day of December, 1902.

[Seal]

THOS. L. HAMILTON.



State of New York }  
County of New York. } ss.

On this 18th day of December, 1902, before me personally came Wm. F. Zimmerman, to me known, and being by me duly sworn, did depose and say that he resided at East Orange, in the State of New Jersey; that he is the Vice-President of the St. Lawrence Power Company, of Massena, New York, one of the corporations described in and which executed the above instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

[Seal]

JOHN P. TWOMEY.

State of New York }  
County of New York. } ss.

I, Thomas L. Hamilton, Clerk of the County of New York, and also Clerk of the Supreme Court for the said County, the same being a Court of Record, do hereby certify that John P. Twomey has filed in the Clerk's office of the County of New York a certified copy of his appointment and qualification as Notary Public for the County of Kings, with his autograph signature, and was at the time of taking the proof or acknowledgment of the annexed instrument duly authorized to take the same. And further, that I am well acquainted with the handwriting of such notary, and believe the signature to the said certificate of proof or acknowledgment to be genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Court and County the 10th day of December, 1902.

[Seal]

THOS. L. HAMILTON.

**ST. LAWRENCE RIVER POWER COMPANY, EXHIBIT A3.**  
**MARK T. COX AND EMILY M. COX**

TO

**THE ST. LAWRENCE RIVER POWER COMPANY.**

DEED.

*Dated January 13th, 1903.*

St. Lawrence County, ss.

Recorded on the 20th day of January, 1903, at 1.30 o'clock, P.M., in Liber 161A of Deeds, at page 62, and examined.

J. FRED HAMMOND,

*Clerk.*

Indenture made this 13th day of January, in the year one thousand nine hundred and three, by and between Mark T. Cox, of East Orange, in the State of New Jersey, and Emily M. Cox, his wife, parties of the first

part, and the St. Lawrence River Power Company, a corporation duly organized and existing under and by virtue of the laws of the State of New York, party of the second part.

Whereas the property and franchises of the St. Lawrence Power Company, of Massena, New York, a domestic stock corporation organized under the laws of the State of New York, were sold on the 6th day of November, 1902, pursuant to a judgment or decree of a court of competent jurisdiction, namely, the Circuit Court of the United States for the Northern District of New York, and the said Mark T. Cox, one of the parties of the first part hereto, has acquired title to the same in the manner prescribed by law, and has associated with himself certain persons, who have become a corporation, namely, the St. Lawrence River Power Company, party of the second part hereto, with power to take and possess said property and franchises.

Now, therefore, this indenture witnesseth that the said parties of the first part, in consideration of the premises and of the sum of one dollar, lawful money of the United States, and of other good and valuable considerations by the party of the second part to the parties of the first part in hand paid at or before the ensealing and delivery of these presents, the receipt whereof is hereby acknowledged, have granted, bargained, sold, assigned, released, conveyed and confirmed, and by these presents do grant, bargain, sell, assign, release, convey and confirm unto the said party of the second part, its successors and assigns, in fee simple forever, all and singular the property and franchises of the St. Lawrence Power Company of Massena, New York, so sold and acquired by the said Mark T. Cox, one of the parties of the first part, the same being described as follows, to wit:—

1. All that certain piece or parcel of land situate, lying and being in the town of Massena, County of St. Lawrence and State of New York, described as follows:

Being twenty-five acres off the Northerly part of the farm known as the "William Dodge farm," and occupied by him in his lifetime, situated on the St. Lawrence River, said twenty-five acres being that portion of said farm conveyed to Elizabeth Dodge by the will of her husband William Dodge, which said will is recorded in St. Lawrence County Clerk's office, June 18th, 1880, in Liber 7 of Wills, page 361; said premises being part of lot 6 tract H, and being the most northerly part of the said William Dodge farm, and being the premises lately occupied by said Elizabeth Dodge and all of the said William Dodge farm not conveyed to Israel and Jennie Dodge by Levi Waterbury, as executor of the last Will and Testament of William Dodge, deceased, together with the appurtenances, and all the estate and rights of the St. Lawrence Power Company of Massena, New York, in and to said premises, being the same premises conveyed to the said St. Lawrence Power Company of Massena, New York, by the said Elizabeth Dodge by deed dated August 16th, 1897, and recorded in the office of the Clerk of St. Lawrence County, August 18th, 1897, in Liber 150 A of deeds at page 6.

2. (a) All that tract or parcel of land situate in the town of Massena aforesaid, and being known and distinguished as the west half subdivision lot No. 7 of the subdivision of tract G, and bounded as follows, to wit:

Beginning in the westerly line of tract G, and at the southwesterly corner of lot No. 7 aforesaid, being the northwest corner of the lot known as the Indian Meadow lot No. 3, and running thence N. 24 degrees 36' W. (as indicated by the magnetic needle, Feb. 17th, 1870) along said Tract's line 57 chains and 58 links to a cedar post marked L. Howard and Bleecher 1857, and standing at the northwest corner of Lot No. 7 aforesaid; thence N. 65 degrees 30' E. along the north line of said lot 8 chains and 55 links to a cedar post marked W. H. P. and L. A. D. 1870 at the north-west corner of the lot now or lately of L. A. Dana; thence S. 24 degrees 10' E. along the westerly line of said Dana's lot 55 chains and 70 links to a cedar post marked L. A. D. and W. H. P. 1870 standing in the north bounds of the Indian Meadow Lot No. 3 aforesaid; thence westerly along the north bounds of said Indian Meadow lot to the place of beginning—containing 47 & 9/100 acres of land, be the same more or less, as surveyed Feb. 17th, 1870, by S. J. Farisworth, Surveyor and C. E. Reserving therefrom the present burying ground so long as it is used for burial purposes. Said burying ground consisting of one acre of land, as reserved in a certain warranty deed from William H. Paddock and Susan A. Paddock to Judson L. Hyde, and recorded in St. Lawrence County Clerk's office in Book 92 B of Deeds, page 169.

Also that other piece of land situate in the town of Massena aforesaid and known as lot No. 3 of the tract known as the Indian Meadows on Grasse River and described in a field book and map of said tract on file in the Secretary of State's office as follows: Beginning at a point in the margin of said river at low water mark in the westerly line of tract G and running thence along said line 26 degrees W. 2 chains 50 links to a stake; thence N. 47 degrees 45' E. 4 chains and 42 links to a stake; thence N. 56 degrees 15' E. 4 chains 33 links to a stake; thence N. 45 degrees 45' E. 5 chains 64 links to a stake; thence N. 40 degrees 10' E. 2 chains 77 links to a stake; thence N. 45 degrees 45' E. 40 chains to a stake in the easterly line of lot No. 7; thence along the prolongation of said line 26 degrees E. 4 chains to a point in the margin of said river at low water mark, and thence up along the margin by the windings thereof to the place of beginning. Containing 5 & 82/100 acres of land, being the same premises described in a certain warranty deed from William H. Paddock and Susan A. Paddock to Judson L. Hyde, and recorded in the St. Lawrence County Clerk's office on the 21st day of November, 1871, in Book 92 B. of Deeds, page 169.

(b) Also all that certain tract or parcel of land situate in the town of Massena aforesaid, and being the south half of lot No. 21 in the subdivision of the Cooper tract so called, and bounded as follows: Beginning on the north side of the Indian Reservation of the Mile Square of the said town of Massena at the southeast corner of lot No. 20 as surveyed by Amos Lay; thence N. 28 degrees 45' W. 45 chains 75 links; thence N. 61 degrees 15' E. 15 chains and 25 links; thence S. 28 degrees 45' E. 45 chains and 76 links to the north line of the Indian Reservation aforesaid; thence along the north line of the said reservation to the place of beginning—Containing 69 and 50/100 acres of land, be the same more or less. Reserving and excepting from the above described premises one acre of land from the northwesterly corner bounded as follows: Beginning at the northwesterly corner of the said premises in the centre of the highway and



running thence easterly 8 rods; thence southerly at right angles with the first mentioned line 20 rods; thence westerly 8 rods; thence northerly 20 rods to the place of beginning, being the premises described in a certain deed from Myron Sharp and Alma Sharp and John Sharp, by their special guardian Fred J. Hyde to Judson L. Hyde, which said deed was recorded in the St. Lawrence County Clerk's office on the 17th day of September, 1888, in Book No. 129 B. of Deeds, at page 1099.

(c) Also all that piece of land situate in the town of Massena aforesaid, and known and distinguished as lot No. 24 in tract H. and described as follows: Beginning at the northeast corner of the Indian Reservation at a cedar post and stones and running thence southerly along the easterly line of the Indian Reservation 23 chains and 73 links to the northerly border of the Indian Meadows; thence easterly along the northerly bounds of said meadows to a post standing 4 chains and 37 links easterly at right angles from the easterly line of the Indian Reservation; thence northerly parallel with the easterly line of the Indian Reservation 24 chains to a small pile of stones; thence S. 62 degrees W. 2 chains and 36 links to a post; thence N. 27 degrees W. 68 chains and 20 links to an ash post and stones; thence S. 63 degrees W. 11 chains to a hickory post and stones; thence S. 28 degrees E. 26 chains and 20 links to a pile of stones; thence S. 63 degrees W. 4 chains 10 links to a stake and stone in the west line of said lot 24; thence south along said west line 44 chains and 70 links to the north line of the reservation; thence east along said northerly line 11 chains and 45 links to the place of beginning. Containing 100 and 35/100 acres of land, excepting and reserving forever all mines and minerals, with the right to dig, work and carry away the same, as reserved in a deed from Uriel H. Orvis to Judson L. Hyde, and being the premises described in a deed from Uriel H. Orvis and Laura L. Orvis to Judson L. Hyde, which said deed was recorded in the St. Lawrence County Clerk's office on the 4th day of January, 1854, in Book 47 A of Deeds, page 224.

(d) Also that tract or parcel of land situate in the town of Massena aforesaid and known and distinguished as part of subdivision lot No. 24 of the subdivision of tract H. in the town of Massena. Beginning at a cedar post marked J. L. H. and standing on the northerly bounds of the Indian Meadows on the north side of the Grasse river, and where said bounds of said meadows are intersected by the line between tract G. and H., and running thence northerly along the line between said tracts 80 chains and 18 links to a cedar post and stones marked W. A. and J. L. H. the southeast corner of the twenty-five acres lot now or lately of William Alden; thence S. 63 degrees 45' E. (as the magnetic needle pointed March 28th, 1859) along the southerly line thereof 7 chains to a cedar post marked W.A. and J.L.H. and standing in the easterly line of that part of said subdivision; thence S. 25 degrees 40' E. along the easterly line thereof 58 chains and 48 links to a post and stones; thence N. 63 degrees E. 2 chains and 40 links to a small pile of stones; thence S. 25 degrees 20' E. 24 chains to a point in the northerly bounds of the aforesaid Meadows, and 23 links S. 25 degrees 20' E. from a cedar post; thence easterly along said bounds of said Meadows to the place of beginning. Containing 48 acres and 77/100 of an acre of land, as surveyed March 28th, 1859, by S. J. Farnsworth, and being all the premises described in a

deed from Joseph Orvis and others to Judson L. Hyde, bearing date Feb. 21st, 1860, and recorded in St. Lawrence County Clerk's office, Book 67A, page 265.

(e) Also all that tract or parcel of land situate in the town of Massena aforesaid, being known and distinguished as a part of the Mile Square known as the Indian Reservation in said town, and bounded as follows: Beginning at a post and stones at the northeasterly corner of said reservation and running thence S. 65 degrees 45' W. along the northerly line of said reservation 11 chains and 50 links to a cedar post at the southeasterly corner of lot No. 21 in tract H; thence S. 66 degrees W. still along said reservation line 15 chains and 75 links to a pine post marked J. L. H. and Wm. H. P. 1865, at the northeasterly corner of the farm now or lately of William H. Paddock; thence S. 23 degrees 45' along the easterly line of said farm and bounds of a highway 23 chains and 80 links to the north bounds of the highway commonly called the Grasse river road; thence S. 23 degrees and 45' E. (same course) 3 chains and 35 links to a pine post marked J. L. H. and L. H. 1865; thence N. 66 degrees 15' E. 8 chains and 38 links to a point in the centre of the mineral spring known as the "Stinking Spring;" thence S. 23 degrees and 45' E. 2 chains and 75 links to a point in the center of the Grasse River; thence easterly along down the center of said river by the meanderings thereof to where said center is intersected by the easterly line of said reservation; thence N. 25 degrees W. along the easterly line of said reservation 26 chains and 53 links to the place of beginning. Containing 77 acres and 55 100 of an acre of land and river, as surveyed April 14th, 1865, by S. J. Farnsworth, except one-half acre in the southwest corner thereof conveyed to Henry T. Clark and Michael H. Flaherty, and being the same premises described in a certain deed from Lemuel Haskell to Judson L. Hyde, which said deed was recorded in the office of the clerk of St. Lawrence County on the 27th day of June, 1865, in Book 73 B of Deeds, at page 596, except the above mentioned half acre.

(f) Also all that piece or parcel of land situate in the town of Massena aforesaid known and distinguished as lot No. 2 of the Indian Meadows along Grasse river purchased from the St. Regis Indians by the State of New York in 1845, and described as follows: Beginning at a point in the margin of Grasse River at low water mark where the same is intersected by a prolongation of the line between the lots now or lately of Benjamin and Michael Russell and Alfred Russell, and running thence along said prolongation N. 26 degrees W. 2 chains to a stake; thence N. 41 degrees E. 4 chains and 96 links to a stake; thence S. 26 degrees E. 2 chains and 50 links to a point in the margin of said river at low water mark; thence up along the margin by the windings thereof to the place of beginning, containing one acre of land, and being the premises described in a deed from Hannibal Andrews and Hattie D. Andrews to Judson L. Hyde, which said deed was recorded in the office of the clerk of St. Lawrence County on the 15th day of February, 1870, in Book 86 C of deeds, at page 527.

(g) Also all that other piece or parcel of land described as follows: All that certain piece or parcel of land situate in our County of St. Lawrence, known and distinguished as lot No. 1 of the Indian Meadows, lying along Grasse river, bounded and described as follows, to wit.: Beginning at a point in the margin of said river at low water mark in the easterly

line of the Indian Mile Square now or lately owned by ——— Haskell, Esq., and running from thence along said line N. 26 degrees W. 1 chain 75 links to a stake; thence N. 41 degrees E. 4 chains 86 links to a stake in the westerly line of said Russell's lot; thence along a prolongation of said line S. 26 degrees E. 2 chains to a point in the margin of said river at low water mark, and thence up along the margin of said river by the windings thereof to the place of beginning.—Containing 92/100 of an acre of land as the said lot is described in the field book on file in the office of our Secretary of State. Together with all and singular the rights, hereditaments and appurtenances to the same belonging or in any wise appertaining. Excepting and reserving all gold and silver mines. The above described premises being the premises conveyed to Judson L. Hyde by Letters Patent from the state, dated April 19th, 1870, recorded August 4th, 1897, in Book 41 of grants in the office of the Secretary of State of New York, page 506.

(i) Also all that parcel of land situate in the town of Massena aforesaid and known and distinguished as the middle part or south end of the northerly half of lot No. 21 in subdivision of tract H. and contains 29 & 60/100 acres of land. Also twenty and one-half acres in lot No. 24, commencing at the south-east corner of the said northerly half of lot No. 21 and running N., on the westerly line of lot No. 24 to the northwest corner of the same; thence running easterly on the north end sufficient length with a line running parallel with the westerly line to the place of beginning making 20 & 1/2 acres of land. Also that other piece of land known and distinguished as a part of lot No. 24 in tract H. in Massena, and described as follows: Beginning at an ironwood post in the northerly line of lot No. 24, 4 chains and 37 links from the northerly corner thereof, and running thence S. 28 degrees E. 24 chains and 30 links to a hickory post and stones; thence N. 62 degrees E., 11 chains to an ash post and stones; thence N. about 26 degrees W. to a post in the northerly line of said lot No. 24; thence westerly along said westerly line to the place of beginning; containing 27 34/100 acres of land, be the same more or less. Expressly excepting therefrom a right of way across the westerly side of lot No. 24 as reserved in a deed from Fred J. Hyde and Julia O. Hyde to Judson L. Hyde. The above described premises being all the premises described in a certain deed from Fred J. Hyde and Julia O. Hyde to Judson L. Hyde and recorded in the St. Lawrence County Clerk's office on the 4th day of August, 1897, in Book No. 149 C. of Deeds, at page 1316.

The foregoing subdivisions, *a, b, c, d, e, f, g* and *i* being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Judson L. Hyde and wife by deed dated September 18, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 23, 1897, in Liber 149 C. of Deeds, page 1434.

3. All that certain piece or parcel of land, being a part of Mile Square lot in the town of Massena, known as the Indian Reservation, and described as follows: Beginning in the northerly line of said Mile Square lot 27 chains 43 links from the northwest corner thereof at a stake and stones, and running thence S. 25 degrees 30' E. 30 chains to the middle of the highway; thence N. 83 degrees E. along the middle of the highway 2 chains; thence N. 49 degrees 15' E. along the middle of said highway 26 chains 42 links to a cedar stake; thence N. 25 degrees W. 23 chains 90 links to a hemlock



stake in the northerly line of said Mile Square reservation; thence S. 64 degrees W. along the northerly line of said reservation 28 chains to the place of beginning. Containing 76 & 16/100 acres of land as surveyed by Jehiel Stevens, and as conveyed to William S. Paddock by two separate deeds from Lemuel Haskell, one dated December 31st, 1843; recorded August 31st, 1846, in Book 39 A. page 127; and the other dated October 26th, 1853; recorded December 24th, 1863, in Book 47 A. of Deeds, page 144. Excepting 24 & 59/100 acres conveyed to Eli Hennigan by deed dated April 1st, 1868; recorded May 7th, 1868, Book 81 C, page 495, to which deed reference is hereby had.

Also all that certain other piece or parcel of land situate in the town of Massena, and distinguished as subdivision part of lot No. 8 of the subdivision of the Mile Square known as Indian Reservation, and bounded and described as follows: Beginning at the north bank of the Grasse river at a post marked 7 and 8, being the southeast corner of lot No. 8, and running thence N. 27 degrees 30' W. 36 chains to a post marked 7 and 8 and standing in the north line of said Mile Square at the northeast corner of said lot No. 8; thence S. 62 degrees 30' W. 16 chains to a post; thence S. 27 degrees 30' E. 25 chains 75 links to said bank of the aforesaid river; thence along said bank down said river to the place of beginning. Containing 51 & 64/100 acres of land as surveyed in November, 1825, by Samuel B. Anderson, subject to the right of flowing parts of said premises as reserved in a deed from Lemuel Haskell to William S. Paddock, dated May 25, 1857; recorded October 17th, 1857, Book 55 B. of Deeds, page 311, and being the premises conveyed by said Haskell to William S. Paddock by above mentioned Deeds, excepting and reserving, however, therefrom that piece or portion of land conveyed by said William S. Paddock to William H. Paddock and by William H. Paddock to Susan A. Paddock by deed dated September 15th, 1864, recorded September 16th, 1864, in Book 71 C of Deeds, page 518, and piece or portion hereby reserved being described as follows: All that tract or parcel of land known and distinguished as subdivision part of lot No. 8 of the Mile Square known as the Indian Reservation and described as follows: Beginning at a cedar post marked W.H.P., U.H.O. 1857, standing on the north bank of the Grasse river in the east line of land formerly conveyed to Uriel H. Orvis by Lemuel Haskell, and running thence N. 26 degrees 50' W. as the magnetic needle pointed May 15th, 1857, along said east line 14 chains 30 links to a cedar post and stones marked W. H. P. 1857; thence N. 89 degrees 45' E. 12 chains 20 links to a poplar tree cornered and marked W.H.P. 1857; thence S. 14 degrees E. 10 chains to a cedar stake in the center of the highway which leads from the north end of the bridge across Grasse river at Massena village to Massena Center; thence S. 40 degrees 45' W. 6 chains 10 links to a cedar stake on the bank of said river, and thence along said bank up said river to the place of beginning—containing 13 & 92/100 acres of land as surveyed May 25th, 1857, by Silas J. Farnsworth.

Also all that certain other piece or parcel of land situate in said town of Massena and known and described as part of lot 13, tract H. and described as follows: All that certain piece or parcel of land beginning at the southeast corner of Lot 13 in tract H and running thence northerly along the easterly line of said lot 13, 7 chains 34 links; thence westerly at a right angle with said easterly line 6 chains and 81 links; thence southerly

parallel with said easterly line 7 chains 34 links to the southerly line of said lot No. 13; thence easterly along said boundary line 6 chains 81 links to the place of beginning. Containing 5 acres of land as conveyed to William S. Paddock by Uriel H. Orvis by deed dated Feb. 7th, 1849; recorded Oct. 1st, 1850, Book 42B page 746.

Also that certain other piece or parcel of land situate in said town of Massena, and described as follows: 40 & 1/2 acres, a square as near as may be in the southeast corner of lot 16, tract H, in said town, being the same premises sold by the comptroller for taxes to Garret Smith, and by Garret Smith and wife conveyed to William S. Paddock by deed dated September 1st, 1845; recorded August 31st, 1846,, Book 39 A, p. 125.

Also that certain other piece or parcel of land situate in said town of Massena, and described as follows: Being 8 & 76/100 acres of land in the northwest corner after ten acres northwest corner and 81 & 24/100 acres north part lot 16 tract II., saving the aforesaid ten acres, as conveyed to William S. Paddock by Garret Smith and wife by deed last above mentioned.

Also that certain other piece or parcel of land situate in said town of Massena, and described as follows: 45 & 8/100 acres around eight acres in the southwest corner of lot 17 tract H., in Massena, as conveyed by Garret Smith and wife to William S. Paddock by deed last above mentioned. Excepting 10 & 30/100 acres off the northerly end as conveyed to Alexander H. Andrews by William H. Paddock and wife by deed dated May 19th, 1865, recorded June 13th, 1865, Book 72 C. page 164.

Also all that certain other piece or parcel of land situate in the town of Massena, County of St. Lawrence, and described as follows: Eight acres to be laid out in a square form as near as may be in the southwest corner of 112 acres charged with taxes in the name of David Sheeks, and being in lot No. 17 tract H in the said town of Massena; the 112 acres are bounded on the south by the Indian Reservation in Massena and on the north by subdivision No. 18 in tract H. Being the premises conveyed by Lemuel Haskell and wife to William S. Paddock by deed dated Jan. 13th, 1831, recorded July 30th, 1834, in Book 19, page 27.

It being the intent hereby to describe all of the farm or premises occupied by William H. Paddock in the town of Massena, except that portion included in the conveyance heretofore mentioned to Susan A. Paddock of 13 & 92/100 acres, together with the appurtenances and all the estate and rights of the said William H. Paddock and Susan A. Paddock his wife in and to said premises.

The foregoing seven parcels of land last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William H. Paddock and wife by deed dated October 12, 1897, and recorded October 14, 1897, in the office of the Clerk of St. Lawrence County in Liber 149 C of Deeds, page 1520.

4. All that tract or parcel of land situate in said town and county, being the south part of lot No. 6 in tract H in said town, and described as follows: Beginning at a cedar post being the southwesterly corner of a lot now or lately of L. Robinson; thence S. 63° 45' W. along the northerly line of a lot now or lately of J. E. Orvis 13 chains to a post being the southeasterly corner of a lot now or lately of S. Benson; thence north 24° 45' W. along the easterly line of said lot 15 chains 40 links; thence N. 63° 45' E. 13

chains to a post in the westerly line of L. Robinson's lot aforesaid; thence S.  $24^{\circ} 45'$  E. along said line 15 chains and 40 links to the place of beginning—containing twenty acres of land, as surveyed October 27th, 1863, by C. E. Chase, and being all the premises conveyed to William Alden by Reuben Dutton and wife by deed dated December 29th, 1864, and recorded November 10th, 1865, in liber 75 B, page 10.

Also all that other piece or parcel of land situate in said town of Massena, and being the southeast corner of lot No. 7 in tract H. in said town, and bounded as follows: Beginning at a cedar post standing in the southwest corner of lot No. 7, and running thence N.  $65^{\circ} 30'$  E. along the southerly line of said lot No. 7, 14 chains and 41 links to a cedar post cornered, being the southeast corner of said lot No. 7 and the southwest corner of the farm now or lately of Reuben Dutton; thence N.  $24^{\circ}$  west along the line between said lot No. 7 and the Reuben Dutton lot 17 chains and 85 links to a cedar post; thence south  $65^{\circ} 30'$  west 14 chains and 30 links to a cedar post; thence south  $23^{\circ} 30'$  east 17 chains and 83 links to the place of beginning. Containing 25 acres and sixty one-hundredths of an acre, as surveyed by Clark E. Chase, June 15, 1874, and being all of the premises conveyed to William Alden by Lucius A. Robinson and wife by deed dated June 30th, 1874, and recorded July 30th, 1874, in Book 99 A, page 282.

Also all that other piece or parcel of land situate in said town and county aforesaid and known as part of subdivision lots 10 and 11 in tract H. in said town, and bounded as follows: Beginning at a point in the highway leading from Massena village to the St. Lawrence River north  $65^{\circ} 10'$  east from the northwesterly bounds of the highway, being the southeasterly corner of lot No. 11, which corner is the junction of lots Nos. 11 and 12 on said highway; running thence south  $65^{\circ} 10'$  west along the northeasterly line of the farm now or lately of G. Lockwood 12 chains and 45 links to a post and stones; thence south  $64^{\circ} 10'$  west still along the N.E. line of said Lockwood's 12 chains and 60 links to a post being the southwesterly corner of the farm now or lately of Reuben Dutton; thence north  $24^{\circ} 10'$  west along the northwesterly boundary of said Dutton's farm 28 chains and 24 links to a post, being the northwesterly corner of said farm; thence north  $64^{\circ} 10'$  east along the said northeasterly boundary of said Dutton farm 25 chains to a point in the highway aforesaid 52 links from the north boundary of said highway; thence south  $24^{\circ} 10'$  east along said highway 28 chains and 25 links to the place of beginning. Containing 70 acres and 50/100 of an acre of land as surveyed July first, 1870, by C. E. Chase.

Also that certain other piece or parcel of land situate in Massena aforesaid, sold by the comptroller in 1828 for taxes and by him described as forty-four acres in a square form as near as may be in the southeast corner of sixty-five acres being what was taxed and returned to the comptroller's office as the south part of lot No. 6 tract H. in Massena aforesaid, expressly reserving and excepting, however, twenty acres heretofore sold to William Alden by Reuben Dutton, the said twenty acres being the first piece or parcel herein described. Being all the premises conveyed to William Alden by Reuben Dutton and wife by deed dated August 21st, 1871, recorded in St. Lawrence County Clerk's office April 5th, 1872, in Liber 93B, page 36, together with the appurtenances.



The foregoing four parcels of land last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William Alden and wife by deed dated October 6, 1897. and recorded in the office of the Clerk of St. Lawrence County, October 13, 1897, in Liber 149 B of Deeds, page 1250.

5. All that piece or parcel of land situate in the town of Massena and described as follows: Being a piece off the westerly side of the lot where William Leao now resides or lately resided in said town: commencing at a point in the southerly line of said lot 310 feet from the centre of the highway, running along the easterly side of said Leao premises, said southerly line being the line between land now or lately the residence of William Leao and the premises now or lately owned by Clark and Flaherty, and running thence at right angles to the northerly line of said Leao lot; thence westerly along said northerly line to the westerly line of said Leao lot; thence southerly along said westerly line of said lot to said southerly line; thence along said southerly line to the place of beginning.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William Leao and wife, by deed dated September 23, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 27, 1897, in liber 149 B of Deeds, page 1116.

6. Also all that tract or parcel of land situate in the town of Massena, County of St. Lawrence and State of New York:

*First.* All that part of Lot No. 13 in tract H in said town, beginning at a basswood tree, standing in the northeasterly corner of said Lot No. 13; thence southerly along the easterly line of said lot 55 chains and 92 links to a post; thence S. 62 degrees W. 14 chains and 24 links to a post standing in the westerly line of said lot; thence northerly along said westerly line 55 chains and 92 links to the northwesterly corner of said lot; thence easterly, along the northerly line of said lot, 14 chains and 22 links to the place of beginning—Containing 79 & 56/100 acres of land, less the land contained in a private road running through the above described lot or parcel of land, which said private road is reserved in this conveyance, and is described as follows: Beginning at a cedar post in the easterly line of Lot No. 13, tract H., Massena, 97 chains and 32 links from the NE. corner of said lot, and running thence S. 55 degrees 15 minutes W., as the magnetic needle pointed Aug. 24th, 1859, 15 chains and 47 links to a point in the center of the highway leading from the N. end of the bridge at Massena village to the St. Lawrence river road, and the line of said survey is to be the center of said private road, which road is to be three rods in width.

*Second.* All that tract or parcel of land known as parts of lots Nos. 12 and 13, tract H., Massena, bounded and described as follows: Beginning in the center of the highway leading from Massena village to the St. Lawrence river at the S.W. corner of land deeded to John B. Andrews by Bishop Perkins, and running thence N. 64 degrees E. along the northerly bounds of said land of J. B. Andrews across part of lot No. 12 and the whole of lot No. 13, tract H, 21 chains to the easterly line of said lot No. 13; thence S. 26 degrees E. along said easterly line 3 chains and 50 links; thence S. 64 degrees W. 22 chains and 20 links to the center of the

aforesaid highway; thence N. 14 degrees W. along the center of said highway 3 chains and 52 links to the place of beginning. Containing 7 acres and 66/100 of an acre of land.

*Third.* All that parcel of land known and distinguished as a part of lot No. 12, tract H, in Massena, and bounded as follows: Beginning at a post in the easterly line of said lot No. 12 standing 37 chains and 97 links northerly from the southeasterly corner of said lot; thence N. 62 degrees W. 6 chains and 96 links to the center of the highway leading from Massena village to the St. Lawrence river; thence northerly along the center of said highway, as the same runs 30 chains and 66 links; thence S. 62 degrees E. 40 links to a post in said easterly line; thence southerly along said easterly line 29 chains and 96 links to the place of beginning—containing 11 and 3/100 acres of land.

*Fourth.*—All that certain piece or parcel of land situate and being in the town of Massena, and bounded as follows: Beginning at a stake marked 5 and 6, said stake standing in the easterly line of lot No. 13 tract H. 28 chains and 36 links northerly from the S.E. corner of said lot and running thence westerly at a right angle with said easterly line 14 chains and 13 links to the westerly line of said lot No. 13; thence northerly along said westerly line 6 chains and 58 links; thence easterly parallel with the above line of 14 chains and 13 links, 14 chains and 4 links to the said easterly line, thence southerly along said easterly line 6 chains and 56 links, to the place of beginning—containing 9 and 20/100 acres of land.

*Fifth.* All that tract or parcel of land, situate in said town of Massena, and known and distinguished as lot No. 11 in sub-division of lot No. 12 of the sub-division of tract H, in said town: Beginning at a stake in the center of the highway which leads from the north end of the bridge across Grasse river at Massena village to the St. Lawrence river road, said stake being the N.W. corner of lot No. 10 and running thence N. 18 degrees 40 minutes W. along the center of said highway 7 chains and 27 links to a stake at the S.W. corner of a lot now or lately of M. Andrews; thence N. 64 degrees 30 minutes E. along the southerly line thereof 8 chains and 96 links to a cedar stake in the easterly line of said lot No. 12; thence S. 25 degrees E. along said easterly line 7 chains and 56 links to a cedar post marked 10 and 11 at the N.E. corner of lot No. 10; thence S. 66 degrees 20 minutes W. along the northerly line of lot No. 10, 9 chains and 77 links to the place of beginning. Containing 6 and 93/100 acres of land, as surveyed by S. J. Farnsworth, November 7th, 1859.

*Sixth.* All that tract or parcel of land, lying and being in the town of Massena, aforesaid, being known and distinguished as the southerly part of lot No. 18 in the sub-division of tract H. in Massena, aforesaid, and the S. easterly part of lot No. 15 in said tract, bounded as follows: Beginning at a cedar post, being the S. E. corner of said lot No. 18; thence S. 65 degrees W. (or nearly that) along the southerly line of said lot No. 18, 15 chains and 10 links to a cedar post and stones; thence N. 25 degrees 30 minutes W. parallel with the W. line of said lot No. 18, 15 chains to a cedar post; thence N. 65 degrees E. 14 chains and 92 links to a cedar post standing in the east line of said lot No. 18; thence S. 26 degrees 15

minutes E. (or nearly that) along the easterly line of said lot No. 18, 15 chains to the place of beginning—containing 22 & 53/100 acres of land. Together with the right of way, or privilege of passing from the above-described lands to the St. Lawrence road.

*Seventh.* All that tract or parcel of land situate in the town of Massena aforesaid, and known and distinguished as a part of sub-division lot No. 12 of the sub-division of tract H. in said town: Beginning at a cedar post standing in the line between lots Nos. 12 & 13 and 34 chains and 82 links northerly from S. westerly corner of said lot No. 13, and running thence southerly along said line 6 chains and 77 links to the N. W. corner of lot now or lately of Thomas Barney, in said lot No. 13; thence S. 64 degrees 30 minutes W. 8 chains and 96 links to a stake in the center of the highway which leads from the northerly end of the bridge at Massena village to the St. Lawrence river road; thence N. 18 degrees 40 minutes W. along the center of said highway 6 chains and 81 links to a stake; thence 65 degrees E. 8 chains and 25 links to the place of beginning—containing 5 & 82/100 acres of land.

*Eighth.* All that tract or parcel of land situate in the town of Massena, aforesaid, known and distinguished as twenty acres to be laid out in the N. W. corner of what will remain of lot No. 8 in tract H. after deducting 34 acres in a square lying around 11 acres in the N. W. corner of said lot. Also that other tract or parcel of land situate in Massena, aforesaid, being parts of sub-division lots Nos. 8, 9 & 12 of the sub-divisions of tract H. in the said town of Massena. Beginning at an iron-wood post and stones marked J. D. & H. R. standing in the line between said lots Nos. 8 & 9, 19 chains and 18 links southerly, from the N. W. corner of said lot No. 8 and running thence S. 24 degrees, 40 minutes E. (as the magnetic needle pointed March 29th and 30th, 1859) along said line 8 chains and 11 links to a cedar post and stones marked A. R. and H. R. at the S. W. corner of A. Russell's part of said lot No. 9; thence N. 65 degrees E. 13 chains and 6 links to a cedar post and stones marked A. R. and H. R. and standing in the line between lots Nos. 9 and 12; thence S. 26 degrees E. along the line between lots Nos. 9 and 12, 11 chains and 8 links to the S. westerly corner of that part of said lot No. 12 now or lately of A. Russell; thence N. 64 degrees 45 minutes E. along the southerly line thereof 11 chains and 95 links to a point in the center of the highway which leads from the N. end of the bridge at Massena village to the St. Lawrence river road; thence S. 13 degrees E. along the center of said highway 3 chains and 37 links to the N. E. corner of 22 acre lot now or lately of L. Danforth; thence S. 64 degrees 15 minutes W. along the N. line thereof 25 chains and 37 links to a point in the line between said lots Nos. 8 and 9; thence N. 24 degrees 45 minutes W. along the lines between said lots Nos. 8 and 9, 9 chains and 64 links to a post and stones at the N. E. corner of 20 acre lot now or lately of H. Reynolds; thence S. 65 degrees W. along the northerly line thereof 13 chains and 88 links to a post in the line between lots Nos. 5 and 8; thence N. 24 degrees 45 minutes W. along said line 12 chains and 96 links to an iron-wood post or tree marked J. D. & H. R. at the S. W. corner of the 12 acre lot now or lately of James Danford; thence N. 65 degrees E. along the line thereof 13 chains and 90 links to the place of beginning. Containing 41 acres of land.



Also all that other tract or parcel of land situate in the town of Massena, aforesaid, known and distinguished as part of sub-division 8 in said tract H in the town of Massena, and bounded as follows: Beginning at a line stone, standing in the line between subdivisions lots Nos. 8 and 9 in said tract at the S. westerly corner of a lot now or lately owned by James Danforth, and run from thence S. 64 degrees 50 minutes W. 13 chains and 88 links to a cedar post and stones marked H. R., 1856, standing in the line between sub-division lots Nos. 5 & 8 in said tract; thence N. 24 degrees 45 minutes W. along said line between said sub-divisions lots 5 & 8, 4 chains and 57 links to the S. westerly corner of a lot of 20 acres now or lately owned by Hugh Reynolds; thence N. 64 degrees 50 minutes E. along the southerly line of said 20 acres 13 chains and 89 links to the line between said lots 8 & 9 at the S. easterly corner of said 20 acres; thence S. 24 degrees 45 minutes E. 4 chains and 51 links to the place of beginning. Containing 6 & 34/100 acres of land.

Also all that tract or parcel of land situate in the town of Massena, aforesaid, known and distinguished as ten acres of land in lot No. 16 in tract H. in said town of Massena, to be laid out in a square form as nearly as may be in the N. W. corner of said lot, as the same was conveyed to David C. Judson by the Comptroller of the State of New York by deed bearing date April 4th, 1823.

Also all that tract or parcel of land situate in the town of Massena, County of St. Lawrence and State of New York, being known and distinguished upon the map of said town as a part of sub-division Lot No. 15 of the sub-division of tract H. and bounded as follows: Beginning at the southwest corner of Lot No. 15, aforesaid, a cedar post and stones, marked Nos. 13, 14, 15 & 16, and running thence 24 degrees 55 minutes W., as indicated by the magnetic needle March 19th, 1877, along the westerly line of said lot 17 chains and 67 links to a cedar post at the southeasterly corner of the farm now or lately of L. A. Robinson, and formerly known as the Davis farm; thence N. 25 degrees 10 minutes W., still along the westerly line of lot No. 15 aforesaid, 3 chains and 55 links to a cedar post marked M.B.A., 1877; thence N. 65 degrees E. 11 chains and 55 links to a cedar post, marked M.B.A., 1877; and standing in the westerly line of the farm formerly known as the Stephen Hutchen's farm and known as the Sutton line; thence S. 25 degrees 3 minutes E. along the last described line 21 chains and 33 links to a cedar post and stones in the southerly line of Lot No. 15 aforesaid, being the southwest corner of the Hutchen's farm aforesaid; thence S. 65 degrees W. along the southerly line of Lot No. 15, 11 chains and 59 links to the place of beginning. Containing twenty-four acres and 59/100 acres of land.

Together with the appurtenances.

The foregoing eleven parcels of land, last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Justin B. Andrews and wife by deed dated September 27, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 7, 1897, in liber 149C of deeds, page 1489.

7. All that tract or parcel of land situate in the town of Massena, known as the Eli Dodge farm; beginning at a point on the south shore of the St. Lawrence river at high water mark and where the same is inter-

sected by the town line between the towns of Massena and Louisville, and running thence, S. 23 deg. E. along said town line as indicated by the magnetic needle April 8, 1896, 50 chains; thence at right angles N. 67 degrees E. 23 chains; thence at right angles and parallel with the town line N. 23 deg. W. 11 chains 34 links to a point in the west shore of Dodge Creek; thence in a line from said point to the center of the highway bridge across chains 87 links to a point in the center of said bridge; thence S. 76 deg. 30' chains 87 links to a point in the center of said bridge; thence S. 76 deg. 30' W. along the center of the highway 2 chains 18 links to a point in the center of said highway; thence N. 23 deg. W. 7 chains to the south shore of the St. Lawrence river at high water mark; thence westerly along the shore of said river to the place of beginning—containing 136 & 12/100 acres more or less, from which must be excepted one-quarter acre of land occupied by the town line school house, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Hiram H. Dodge and wife, by deed dated October 6, 1897, and recorded in the office of the Clerk of St. Lawrence County, October 9, 1897, in liber 149 B of Deeds, page 1222.

8. All that tract or parcel of land, being part of lot seven, tract H. of the town of Massena, St. Lawrence County, N.Y., and bounded and described as follows: Beginning at a cedar hub at the brink of the bank of the St. Lawrence river (located at the N.E. corner of the farm now or lately of Benjamin Sutton and the same being the corner between said Sutton's property and the property now or lately of Fred. J. Hyde) and running thence S. twenty-two degrees twenty-seven minutes E. 1792 & 5/10 feet to a cedar hub in the line fence; thence S. 22 degrees 15 minutes E. 1442 & 19/100 feet to a stone monument at the S.E. corner of said Sutton's farm, the same being the corner with said land now or lately of Fred. J. Hyde; thence S. 68 degrees 12 minutes W. 949 & 36/100 feet to a cedar hub, the same being the corner between farms now or lately of Sutton, Fred. J. Hyde and Israel Dodge; thence N. 21 degrees 44 minutes W. 333 & 29/100 feet to a cedar hub on the Israel Dodge line; thence N. 20 degrees 14 minutes W. 1795 & 33/100 feet to a cedar post, the same being the corner between the farms now or lately of Israel Dodge, Elizabeth Dodge, and Benjamin Sutton; thence N. 21 degrees 50 minutes W. 1501 & 54/100 feet to the brink of the bank of the St. Lawrence river at a cedar hub, the same being the boundary between the said farms now or lately of Elizabeth Dodge and said Benjamin Sutton; thence following the various windings of said brink of the bank of the St. Lawrence river to the place of beginning, containing 70 & 72/100 acres of land, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company, of Massena, New York, by Benjamin Sutton and wife by deed dated November 15, 1897, and recorded in the office of the Clerk of St. Lawrence County November 18, 1897, in Liber 150 C of Deeds, page 1284.

9. All that piece or parcel of land situate in the town, county and state aforesaid, described as follows: Beginning at a stone standing at the foot of a bar post at the southeast corner of the farm now or lately occupied by Benjamin Sutton and running thence south 68 degrees west 13 chains and 42 links; thence South 22 degrees East 10 chains and 83 links to a cedar stake; thence north 67 degrees east thirteen chains and fifty links to

a cedar stake; thence north 22 degrees west 10 chains and 70 links to the place of beginning containing fourteen acres of land as surveyed November 14th, 1895, by P. B. Flaherty.

Also all that other piece or parcel of land situate in the town of Massena aforesaid and bounded and described as follows: Beginning at a corner where the lands now or lately of Benjamin Sutton, William Alden and Fred. J. Hyde join, and running thence in an easterly direction along the boundary between said lands now or lately of Fred. J. Hyde and William Alden, a distance of 1034 feet 4 &  $\frac{3}{4}$  inches; thence deflecting to the left 124 degrees 21' 30" and running in a northwesterly direction a distance of 1764 feet and 2 &  $\frac{1}{4}$  inches to the line between lands now or lately of Benjamin Sutton and Fred. J. Hyde; thence deflecting again to the left 144 degrees 7' and running in a southerly direction along the boundary between lands now or lately of said Benjamin Sutton and Fred. J. Hyde a distance of 1465 feet and 10 &  $\frac{3}{4}$  inches to the point or place of beginning containing seventeen and two hundred forty-four one thousandths (17 &  $\frac{244}{1000}$ ) acres of land, be the same more or less, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Fred J. Hyde, and wife, by deed dated October 11, 1897, and recorded in the office of the Clerk of St. Lawrence County October 13, 1897, in Liber 149 B of Deeds, page 1248.

10. All that tract or parcel of land situate in the town of Massena aforesaid, and being known and distinguished as a part of the Mile Square, known as the Indian Reservation in said town. Beginning at a pine post marked J. L. H. and Wm. H. P. and standing in the northerly line of said reservation and 27 chains and 25 links westerly from the northeast corner thereof and being the northwesterly corner of the lot now or lately of J. L. Hyde, known as the Haskell lot and running thence S. 64 deg. 55' W. (as indicated by the magnetic needle the 27th of March, 1868) along the reservation line aforesaid 10 chains 44 links to a cedar post and stones marked No. 17 and 20 at the southwesterly corner of subdivision lot No. 20 of the subdivision of tract H; thence S. 26 deg. 45' E. 26 chains 46 links to a point in the center of the highway which leads from Massena Village to Massena Center; thence N. 50 deg. E. along the center of said highway 9 chains 35 links to where the same is intersected by the westerly line of J. L. Hyde's lot aforesaid; thence N. 23 deg. 45' W. along the westerly line of said Hyde's lot aforesaid and east bounds of the Sharp road 24 chains 4 links to the place of beginning—containing 24, 59/100 acres of land as surveyed March 27, 1868, by S. J. Farnsworth, licensed surveyor and C.E.

Also all that other piece or parcel of land situate in said town of Massena, and being part of Mile Square, known as Indian Reservation, and bounded and described as follows: Beginning in the center of the highway which leads from the north end of the iron bridge at Massena village along the northerly side of the Grasse river to Massena Center, and at a point where the same would be intersected by extending the easterly line of the highway commonly called the Sharp road, said point being the northeasterly corner of lands now or lately of Abel Haskell, and running thence easterly along the center of said first described highway 1 chain 60 $\frac{1}{2}$  links; thence S. 22 deg. 45' E. as indicated by the magnetic needle September 28th, 1883, parallel with the easterly line of said Haskell's land 3 chains 47 links to a



pine stake in the northerly line of said Haskell's land; thence S. 67 deg. 15' W. along the northerly line of said Haskell's lands, 1 chain 54 links to a stake and stones at a corner thereof; thence N. 22 deg. 45' W. along the easterly line of said Haskell's lands 3 chains 2 links to the place of beginning—containing  $\frac{1}{2}$  of an acre of land as surveyed September 28th, 1883, by S. J. Farnsworth, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Michael H. Flaherty and others by deed dated September 15, 1897, and recorded in the office of the Clerk of St. Lawrence County September 21, 1897, in Liber 150 A. of Deeds, page 11.

11. All that piece or parcel of land situate, lying and being in said town of Massena known as part of lot 7, tract H, and bounded as follows: Beginning at a stone standing at the foot of a bar post at the S. E. corner of the farm now or lately occupied by Benjamin Sutton, and running thence south 68 degrees W. 14 chains 34 links to a cedar stake; thence S. 22 degrees E. 10 chains 83 links to a cedar stake; thence north 67 degrees E. 14 chains 42 links to a cedar stake and thence north 22 degrees W. 10 chains 70 links to the place of beginning. Containing fifteen acres of land as surveyed by P. B. Flaherty, November 14th, 1895, excepting and reserving, however, the following described piece or parcel of land; Beginning at a stone standing at the foot of a bar post at the southeast corner of the farm now or lately occupied by Benjamin Sutton, and running thence south 68 degrees W. 13 chains and 42 links; thence South 22 degrees E. 10 chains 83 links to a cedar stake; thence N. 67 degrees E. 13 chains 50 links to a cedar stake, and thence North 22 degrees W. 10 chains 70 links to the place of beginning—containing fourteen acres of land as surveyed by P. B. Flaherty, November 14th, 1896, heretofore conveyed to Fred. J. Hyde by Charles F. Ober and wife, the premises intended to be described being about one acre of land situate on the westerly side of the Fred. J. Hyde fourteen acre lot, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Charles F. Ober and wife, by deed dated September 27, 1897, and recorded in the office of the Clerk of St. Lawrence County, September 28, 1897, in liber 149-B of deeds, page 1131.

12. All that piece or parcel of land situate in the town of Massena, in tract H, being part of lots 3 and 6: Beginning at a post on the bank of the river St. Lawrence, being the northwest corner of lot No. 7 and the northeast corner of Lot No. 6 and running thence along the line between lots 6 and 7 S. 25° E. 39 chains 34 links to a hemlock post; thence S. 63° 30' W. 13 chains 58 links to a hemlock post; thence S. 25° 15' E. 15 chains 50 links to a hemlock post; thence S. 64° W. 16 chains 50 links to an ironwood post; thence N. 25° 30' W. 7 chains 50 links to a hemlock post; thence N. 25° 30' W. 7 chains 50 links to a hemlock post; thence N. 64° E. 9 chains 47 links to a hemlock post; thence N. 25° 15' W. 21 chains 30 links to a hemlock post and stones on the west bank of the creek; thence north-erly down the center of said creek and along the easterly bounds of land now or lately of Eli Dodge to a point on the bridge in the highway 12 links west from the center of said bridge; thence along the center of the highway S. 74° W. 1 chain 91 links; thence N. 26° 30' W. 6 chains 72 links to the bank of the river St. Lawrence at a post and stones, thence down the bank of said river to the place of beginning—containing 75 and

60/100 acres of land as conveyed by Bishop Perkins and others to William Dodge by deed dated September 17th, 1850; recorded May 19th, 1857, Liber 54 C. page 549.

Also all that other piece or parcel of land conveyed by Uriel H. Orvis and wife to William Dodge by deed dated October 15th, 1852, recorded May 19th, 1857, Liber 54C of deeds, page 551, being the tax lot theretofore conveyed to Uriel H. Orvis by the comptroller of the state of New York, and described as follows: eighteen and one-half acres, to be laid out in a square form as near as may be in the northwest corner of what would remain of lot No. 6, tract H, Massena, after deducting 55 and one-half acres off the northerly part of said lot.

Excepting, however, from the first described piece or parcel of land, all that piece or portion conveyed by William Dodge and wife to Stewart Wilson by deed dated October 15th, 1852, and recorded October 30th, 1852, Liber 45 C page 427, and being all that certain piece or parcel of land situate in the town of Massena in lot No. 3, tract H, and described as follows: Beginning at a hemlock post, the southeast corner of said lot, thence S. 64° W. 16 chains 50 links to an ironwood post; thence N. 25° 30' W. 7 chains 50 links to a hemlock post; thence S. 7 chains 50 links to the place of beginning—containing 12 & 3/8 acres of land.

Also excepting from the first above-mentioned piece twenty-five acres off the northerly end thereof as conveyed to Elizabeth Dodge by the will of William Dodge, deceased, which said will is recorded in St. Lawrence County Clerk's office in liber 7 of wills, page 361.

The intention being to describe all of the William Dodge farm, so called, in the town of Massena, as occupied by him in his lifetime, except the above-mentioned pieces conveyed to Stewart Wilson and Elizabeth Dodge, the premises hereby described containing 56 and 72 1/100 of an acre of land, more or less. Together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Israel Dodge and wife, and Jennie Dodge, by deed dated September 27, 1897, and recorded in the office of the clerk of St. Lawrence County, September 28, 1897, in liber 149B of deeds, page 1128.

13. All that piece or parcel of land, situated in the town of Massena and in the Mile Square known as Indian Reservation, described as follows: Being known as the Haskell mill property, and the other property adjacent thereto, now or lately occupied by Abel Haskell, and situate upon both sides of the Grasse River, and including the bed of the river, and described as follows: That portion upon the north side of Grasse River being bounded on the north by the center of the highway leading from Massena village to Massena Center and a small lot of about half an acre formerly belonging to Clark and Flaherty, and now or lately the property of the St. Lawrence Power Company of Massena, New York, and also lands formerly belonging to J. L. Hyde, and now or lately the property of the St. Lawrence Power Company of Massena, New York; on the east by the aforesaid lands formerly belonging to Clark and Flaherty and J. L. Hyde; on the west by a lot of land now or lately belonging to Sallie Sharp, and also a lot now or lately belonging to Andrew Gougeau. The portion situate upon the southerly side of said river, being bounded on the east by lands now or lately belonging to Fred Bailey; on the south by the center of the highway; on the west by lands known as the Dilcox property.

Also all that other piece or parcel of land being all the right, title and interest formerly of Abel Haskell in and to all lands within said Indian Reservation, and being the bed of the Grasse River, the intention being to describe all the right, title and interest owned by Lemuel Haskell at the time of his death in and to the lands known as the Indian Reservation, excepting, however, therefrom, 178 and 47/100 acres of land as conveyed by Abel Haskell to Martha Derby and Laura Stearns, by deed dated September 28th, 1872, recorded March 14th, 1873. And also excepting about one acre of land on the northerly side of said river as conveyed by the said Abel Haskell to Sally Richards, by deed dated July 28th, 1881, recorded August 31, 1881, liber 114C of Deeds, page 131. And also reserving to the said Abel Haskell out of the premises hereby intended to be described, for and during his natural life the use and occupancy of that portion of the premises intended to be described, bounded and described as follows: On the south by the highway leading easterly from Massena village past said premises; on the west by the line between the premises hereby intended to be described and the adjoining premises; on the north by the line running easterly from said westerly line through the most southerly of three small elm trees standing near the westerly line to the north-westerly corner of the stone house, and in a line to a point twenty feet easterly of the "Spring House"; on the east by a line at right angles with the last-mentioned line to the highway.

Together with the free and undisturbed right of way through the part of the premises in which a life estate is herein reserved through and over two lanes now in use, and all and every right which may be reserved to said Abel Haskell, or his grantor, in any part or portion of said Mile Square, Indian Reservation.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Abel Haskell, by deed dated November 15, 1897, and recorded in the office of the Clerk of St. Lawrence County, November 18, 1897, in Liber 150 C, of Deeds, page 1282.

14. All that tract or parcel of land situate in the town of Massena, County of St. Lawrence, and State of New York, to wit, all that part of lot No. 16, tract II. bounded as follows: Beginning at a post standing on the northeasterly corner of said lot; thence southerly along the easterly line of said lot 59 chains and 43 links to a post; thence south 62 degrees west 14 chains and 68 links to a post in the westerly line of said lot; thence northerly along said westerly line 49 chains and 43 links to a post being the southwesterly corner of ten acres sold for taxes; thence north 62 degrees east 10 chains to a post; thence northerly parallel with the westerly line of said lot 10 chains to the northerly line of said lot; thence easterly along said northerly line 5 chains and 50 links to the place of beginning, containing eighty and twenty-four hundredths acres of land, being the whole of said lot No. 16 excepting fifty and one-half acres on the south end and ten acres in the N. W. corner, it being the intention to describe all of said lot except said 50½ and 10 acres.

Also all that other certain piece or parcel of land situate in the said town of Massena, County of St. Lawrence and State of New York, known and described as follows: Being all that piece or parcel of land, and part of lot No. 17, tract II, described as follows: Beginning at a post standing



in the northeasterly corner of said lot, thence southerly along the easterly line thereof 49 chains 12 links to a post; thence S. 62 degrees W. 11 chains 72 links to a post in the westerly line of said lot; thence northerly along said westerly line 39 chains and 64 links to a post, being the southwesterly corner of 9 acres sold for taxes; thence N. 62 degrees E. 9 chains and 49 links to a post; thence northerly parallel with the westerly line of said lot 9 chains and 48 links to the northerly line of said lot; thence easterly along said northerly line 1 chain and 56 links to the place of beginning, containing 46 &  $\frac{89}{100}$  acres of land, being the whole of said lot No. 17 excepting 53 &  $\frac{3}{4}$  acres of land on the southerly end of said lot, and 9 acres on the northwesterly corner thereof.

Also that certain piece or parcel of land being a part of said lot No. 17, tract H, heretofore mentioned as 9 acres sold for taxes, and being the same premises mentioned and described in a deed from David C. Judson to John B. Andrews of Massena, dated November 1st, 1838, and recorded in St. Lawrence County Clerk's office the 9th day of April, 1839, in Book No. 29 of Deeds, pages 453 and 454.

Also all that certain other piece or parcel of lot No. 17, tract H heretofore mentioned, being described as follows: Beginning at a cedar post standing in the northeasterly line of said lot No. 17, and at the northeasterly corner of a lot of 53 &  $\frac{3}{4}$  acres subdivided off from the southerly end of said lot in the year 1838 by Philo Barber, and known as the "tax lot" and running thence south 26 degrees 30 minutes E. along the northeasterly line of said lot 8 chains and 99 links to a cedar post initialed A.H.A. and W.H.P. 1865; thence S. 64 degrees 50' W. 11 chains and 65 links to a hemlock post in the southwesterly line of said lot; thence N. 25 degrees W. along said southwesterly line 8 chains and 90 links to the northwesterly corner of said 53 &  $\frac{3}{4}$  acre lot; thence N. 64 degrees 25 minutes E. along the northwesterly line thereof 11 chains and 41 links to the place of beginning. Containing 10 acres and 33/100 acres of land, as surveyed February 3rd, 1865, by S. J. Farnsworth, and being the same premises conveyed to Alexander H. Andrews by William Paddock and wife by deed dated May 19th, 1865, and recorded in St. Lawrence County Clerk's office the 14th day of June, 1865, in Liber 72C of Deeds, at page 164, &c.

Also all that certain other piece or parcel of land being the whole lot of No. 20, tract H, in the town and county aforesaid, excepting therefrom fifteen acres sold and conveyed to one William Leao and containing 92 and 71/100 acres, the intention being to describe all of said lot No. 20, tract H, excepting said fifteen acres, together with the appurtenances.

The foregoing five parcels of land, last above described, being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Alexander H. Andrews by deed dated July 31, 1897, and recorded in the office of the Clerk of St. Lawrence County, August 7, 1897, in Liber 149A. of Deeds, page 632.

15. All those certain lots, pieces and parcels of land situate, lying and being in the town of Massena, St. Lawrence County, New York, and bounded and described as follows:—

(a) Beginning at a point in the center of the highway leading north from Massena Village to the St. Lawrence River, where the southerly line of the premises now or lately owned by Charles F. Ober intersects the

center line of said highway, and thence running north 66 deg. 30' east along the said southerly line of said Ober's premises nine hundred and nineteen (919) feet; thence south 24 deg. 10' east, along the boundary line of land lately owned by Justin B. Andrews eleven hundred and sixty-two (1162) feet; thence south 55 deg. 60' west, still along the boundary line of land lately owned by Justin B. Andrews, nine hundred and nineteen (919) feet to the center of said highway; thence along the center of said highway north 24 deg. west eleven hundred and seventy-six (1176) feet to the point or place of beginning and containing about twenty-four and 78/100 (24, 78/100) acres.

(b) Beginning at a point in the center of said highway where the southerly line of the premises lately owned by William Alden intersects the center line of said highway and thence running south 66 deg. 30' west along the said southerly line of said Alden premises twenty-six hundred and seventeen and 90/100ths (2617—90/100) feet to a point in the line between said Alden premises and the premises now or lately belonging to Cleary and Bridges, thence south 24 deg. 29' 40" east, along the easterly line of said Cleary and Bridges premises six hundred and ninety-seven and 91/100 (697-91/100) feet to a point where said easterly line intersects the northerly line of premises lately owned by Justin B. Andrews; thence north 66 deg. 47' 10" east along the said northerly line of the said J. B. Andrews premises and the northerly line of premises now or lately owned by one J. Coughlin nine hundred and thirty-one and 67/100ths (931-67/100) feet to a point in the easterly line of said Coughlin premises; thence south 21 deg. 48' 20" east, along the said easterly line of said Coughlin premises and also along the easterly line of said Andrews premises six hundred and four and 14/100ths (604-14/100) feet to a point where said easterly line intersects the northerly line of premises now or lately owned by William Scarborough; thence north 67 deg. 32' 20" east along the said northerly line of said Scarborough premises sixteen hundred and ninety-seven and 90/100ths (1,697-90/100) feet to the center line of said highway; thence north 23 deg. 44' 30" west, along the said center line of said highway thirteen hundred and thirty-seven and 75/100ths (1,337-75/100) feet to the point or place of beginning, and containing about sixty-six acres.

The said above described and bounded premises constituting a small farm lying upon both sides of the said highway and being the premises heretofore known as the "Lockwood Farm" in the said town of Massena which was devised unto Alva B. Lockwood by the last will and testament of Gaylord P. Lockwood, dated May 1, 1879, and was conveyed by the said Alva B. Lockwood to De Witt C. Erwin by deed dated September 30, 1897, and recorded in the St. Lawrence County Clerk's office in Liber 149 B of Deeds at page 1171 on October 1, 1897, together with the appurtenances.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by De Witt C. Erwin and wife, by deed dated March 29, 1898, and recorded in the office of the Clerk of St. Lawrence County, April 1, 1898, in Liber 151 C of Deeds page 1286.

16. Also all and singular the following lands and premises, with the appurtenances thereunto belonging, situate in said town of Massena, County of St. Lawrence, and State of New York, that is to say:—

*First.* All that piece or parcel of land described as follows: Beginning at a point in the north line of the Haskell Mile Square where the same intersects the west line of the farm now or lately of Judson L. Hyde and running thence north  $23^{\circ} 57'$  west along the center line of the highway nine hundred and one and  $39/100$  (901.39) feet; thence south  $67^{\circ}$  west along the south line of the farm now or lately of A. Hampton Andrews, three hundred and ten (310) feet to a cedar post; thence south  $23^{\circ} 57'$  east nine hundred and one and  $63/100$  (901.63) feet to a point in the Haskell Mile Square; thence north  $66^{\circ} 58'$  east three hundred and ten (310) feet along said line to the place of beginning, containing six and  $42/100$  (6.42) acres of land, more or less.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by William Leao and wife by deed dated the first day of October, 1898, and recorded in the office of the Clerk of the County of St. Lawrence on the eleventh day of October, 1898, in Liber 151 B of Deeds, at page 1277.

*Second.* All that part of the farm now or lately known as the Charles F. Ober Farm, and formerly known as the Lucius Robinson Farm, and adjoining that part of the lands now or lately of the St. Lawrence Power Company of Massena, New York, and formerly known as the Lockwood and Alden Farms, and described as follows: beginning at a post at the northeast corner of the Lockwood twenty-five acre lot and running North  $24^{\circ} 15'$  West two hundred and thirty-four and  $44/100$  (234.44) feet to a stone post at the corner of the property now or lately of Justin Andrews; thence on the same course two hundred and twenty-five and  $26/100$  (225.26) feet to a stone post; thence on a course south  $66^{\circ} 30'$  west nine hundred and twenty-seven and  $44/100$  (927.44) feet to a point in the highway known as the St. Lawrence River Road; thence south  $23^{\circ} 15'$  East four hundred and sixty and  $6/100$  (460.06) feet along said highway to a point or post which is or was the northwest corner of the Lockwood twenty-five acre lot aforesaid; thence north  $66^{\circ} 20'$  east nine hundred and thirty and  $81/100$  (930.81) feet along the north line of the aforesaid Lockwood lot to the place of beginning, combining about ten (10) acres of land, more or less.

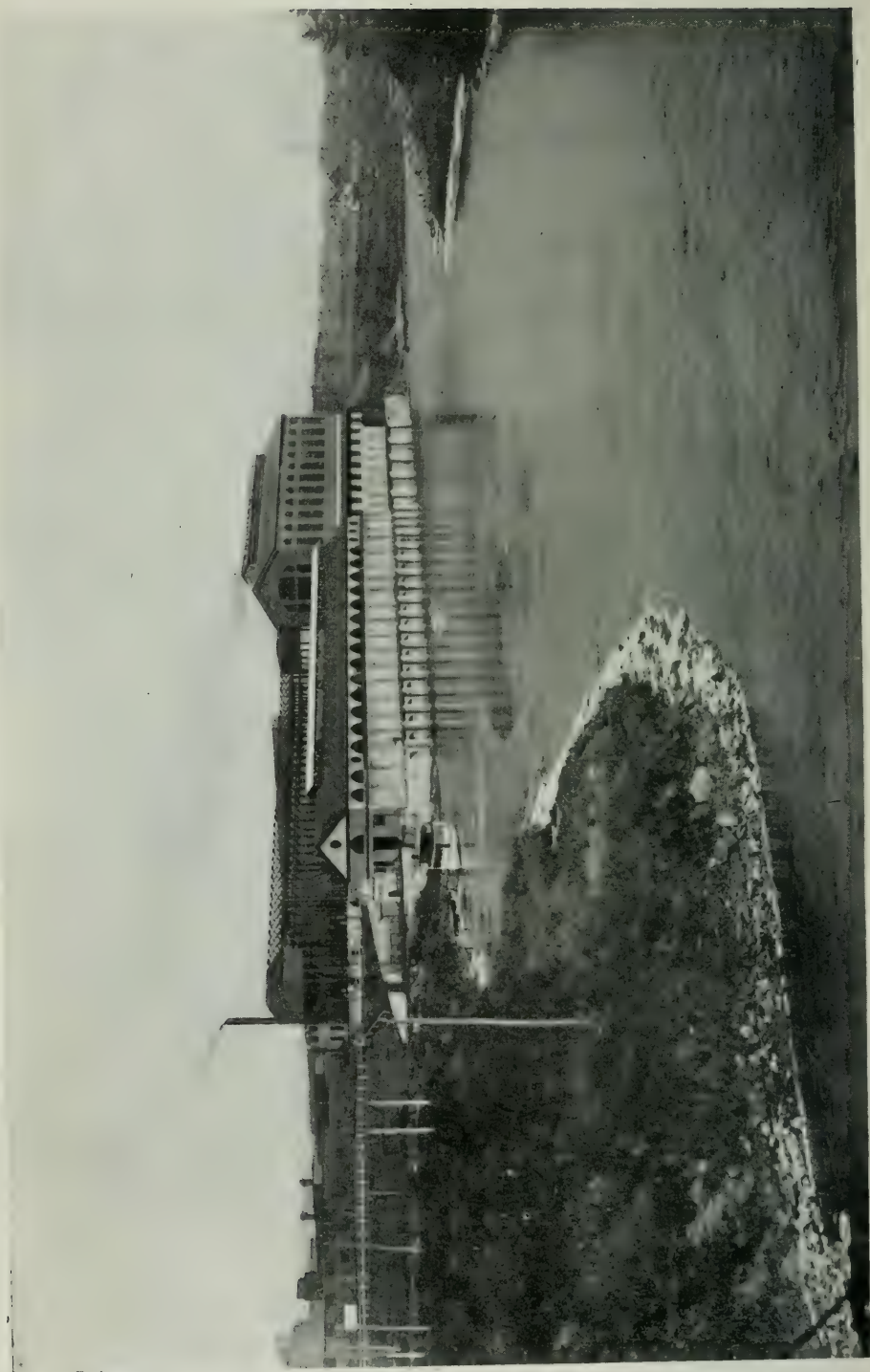
Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Charles F. Ober and wife by deed dated the 23rd day of July, 1898, and recorded in the office of the Clerk of the County of St. Lawrence on the 28th day of July, 1898, in Liber 151 C of Deeds, at page 1442.

*Third.* All that piece or parcel of land, being part of the southerly half of Lot No. 21 in the subdivision of the Cooper tract so called and bounded as follows: Beginning at the northwesterly corner of said southerly half of said premises in the center of the highway running north from the road leading from Massena Village to Massena Center, and running thence easterly eight (8) rods; thence southerly at right angles with the first mentioned line twenty (20) rods; thence westerly eight (8) rods to the center of said highway; thence northerly twenty (20) rods to the place of beginning, containing one (1) acre of land, be the same more or less.

Being the same premises conveyed to the St. Lawrence Power Company of Massena, New York, by Charles Andrews and wife by deed dated the 18th day of September, 1897, and recorded in the office of the Clerk







(To face page 245.)

Power House and Grasse River.

of the County of St. Lawrence on the 21st day of September, 1897, in Liber 150 A of Deeds, at page 10.

Together with the canal constructed on, in or over said lands or part thereof, from a point on the St. Lawrence River at or near Dodge's Creek to a point on the Grasse River at or near the town of Massena in said County of St. Lawrence and State of New York, with all the head-gates, dams, sluices, conduits, power houses, machinery, and appurtenances of every kind and nature; together with all the rights of way for the said canal or works, and all lands acquired by the St. Lawrence Power Company of Massena, New York, for use in connection with the said canal, or appurtenant or adjoining thereto, and all machinery, fixtures, dredges and other tools, implements and movables of every kind acquired for use in connection with the operation of the canal and works of the St. Lawrence Power Company of Massena, New York.

Together with all and singular the tenements, hereditaments and appurtenances belonging to any and all of the property mentioned and described in this indenture or in anywise appertaining, and the conversions, remainders, tolls, incomes, rents, uses and profits thereof, and also all of the estate, right, title, interest, property, possession, claim and demand whatsoever as well in law as in equity of the parties of the first part of, in and to the same, and any and every part thereof, with the appurtenances, and also all the rights, privileges and franchises, corporate, public or municipal of the St. Lawrence Power Company of Massena, New York, pertaining thereto, and all contracts and leases made by the St. Lawrence Power Company of Massena, New York, for power to be furnished by the St. Lawrence Power Company of Massena, New York, excepting and reserving, however, a right of way for a railroad and the railroad thereon constructed extending through the land hereinbefore described from the highway on the south side of the Grasse River to the power house lately of the St. Lawrence Power Company of Massena, New York, and excepting and reserving also the land and premises described as follows, namely:

Beginning at a stone monument marked LV standing in the south bounds of the highway known as East Center Street in the Village of Massena on the line between the lands now or lately of the St. Lawrence Power Company of Massena, New York, and the lands now or lately of Susan A. Paddock, and running thence easterly along the said highway 532-65/100 feet to a stone monument marked LVIII, on the margin of said highway; thence south  $17^{\circ} 23' 42''$  east 320-31/100 feet to a stone monument marked LVII at high water mark of the Grasse River; thence westerly along the said Grasse River following the windings thereof about 690 feet to a stone monument marked LVI standing on the line between properties now or lately of the St. Lawrence Power Company of Massena, New York, and the aforesaid Susan A. Paddock at highwater mark of the Grasse River; thence north  $6^{\circ} 51' 59''$  east 379-10/100 feet to the place of beginning.

All the above described property and franchises being the property and franchises conveyed to the said Mark T. Cox, one of the parties of the first part, by J. De Peyster Lynch, special master, and others, by deed dated November 24th, 1902, and recorded December 22nd, 1902, in the office of the Clerk of the County of St. Lawrence, New York, in Liber 160



C of Deeds, at page 1325, and by the St. Lawrence Power Company of Massena, New York, by deed dated December 18th, 1902, and recorded December 22nd, 1902, in the office of said Clerk of the County of St. Lawrence, New York, in Liber 160 A of deeds at page 630.

To have and to hold all and singular the above-mentioned and described property and franchises unto the said The St. Lawrence River Power Company, its successors and assigns, forever,

And the said Mark T. Cox, for himself, his heirs, executors and administrators, does covenant, promise and agree to and with the said The St. Lawrence River Power Company, its successors and assigns, that he has not made, done, committed, executed or suffered any act or acts, thing or things whatsoever, whereby or by means whereof, the above-mentioned and described premises, property and franchises, or any part or parcel thereof, now are, or at any time hereafter shall or may be charged, incumbered, impeached or forfeited in any manner or in any way whatsoever.

In witness whereof, the parties hereto of the first part have hereunto set their hands and seals the day and year first above written.

Signed, sealed, acknowledged and	}	MARK T. COX.	[Seal.]
delivered in the presence of:	{	EMILY M. COX.	[Seal.]

THOMAS L. TEN EYCK.

R. CHIFFINGWELL.

State of New York, }  
County of New York. }ss.

I, Thomas L. Hamilton, Clerk of the County of New York and also Clerk of the Supreme Court for the said County, the same being a Court of Record, do hereby certify, that Thomas L. Ten Eyck, whose name is subscribed to the certificate of the proof or acknowledgment of the annexed instrument, and thereon written, was at the time of taking such proof or acknowledgment, a Notary Public in and for the County of New York, dwelling in the said County, commissioned and sworn, duly authorized to take the same. And further, that I am well acquainted with the handwriting of such Notary, and verily believe that the signature to the said certificate of proof or acknowledgment is genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Court and County, the 13th day of January, 1903.

THOS. L. HAMILTON,

*Clerk.*

State of New York, }  
County of New York. }ss.

On this 13th day of January, 1903, before me personally came Mark T. Cox and Emily M. Cox, to me known and known to me to be the individuals described in and who executed the foregoing instrument, and severally acknowledged to me that they executed the same.

THOMAS L. TEN EYCK,

*Notary Public, No. 76,*

*New York County.*

## ST. LAWRENCE RIVER POWER COMPANY, EXHIBIT A5.

CERTIFICATE OF INCORPORATION ST. LAWRENCE RIVER  
POWER COMPANY, MASSENA, NEW YORK.

[Seal.]

WE, THE UNDERSIGNED, at least two-thirds of whom are citizens of the United States and one of us a resident of the State of New York, desiring to become a corporation under the laws of the State of New York, known as the Stock Corporation Law, and to take and to possess the property and franchises of a domestic stock corporation sold as hereinafter stated, do hereby make, acknowledge and file this certificate for that purpose and certify, as required by section 3 of said law, as follows:

I. That the property and franchises of the St. Lawrence Power Company of Massena, New York, a domestic corporation organized under and by virtue of Chapter 484 of the Laws of 1896 of the State of New York, entitled "An act to incorporate the St. Lawrence Power Company of Massena, St. Lawrence county, New York," as supplemented by Chapter 542 of the laws of 1898 of the State of New York, entitled "An act supplementary to an act entitled 'An Act to incorporate the St. Lawrence Power Company, of Massena, St. Lawrence county, New York,' were, on the 3rd day of July, 1902, sold under and by virtue of a judgment or decree of the Circuit Court of the United States for the Northern District of New York, rendered in an action pending in said court between Commercial Trust Company of New Jersey and Morristown Trust Company, complainants, and the St. Lawrence Power Company of Massena, New York, The Standard Trust Company of New York and United States Mortgage and Trust Company, defendants, and dated, entered and filed in the clerk's office of the said Circuit Court of the United States in the city of Utica, State of New York, on the 13th day of May, 1902. That Mark T. Cox, one of the undersigned, purchased said property and franchises at such sale, and having, as he then verily believed, acquired title to the same in the manner prescribed by law, and having associated with himself the undersigned, Thomas A. Gillespie, Henry P. Davidson, William J. Wilson and Samuel E. Potter, the undersigned did, on or about the eighteenth day of July, 1902, make and file in the office of the Secretary of State an instrument purporting to be a certificate of incorporation as provided in section 3 of said Stock Corporation Law, reference to which certificate, as the same is on file in the office of the Secretary of State, is hereby made. That thereafter and on or about the 19th day of August, 1902, an order or decree was made in said above-entitled action and entered and filed in the office of said clerk of the Circuit Court of the United States for the Northern District of New York, vacating the sale of said property and franchises and vacating said judgment or decree dated the 15th day of May, 1902, by which order or decree made on or about the 19th day of August, 1902, it appeared that said Mark T. Cox had not acquired title to said property and franchises in the manner prescribed by law. That, such title not having been so acquired, the filing of said above-mentioned instrument purporting to be a certificate of incorporation, was unauthorized by law and void. That thereafter and on the 6th day of November,

1902, said property and franchises were again duly sold under and by virtue of a judgment or decree rendered in said above-entitled action and entered in the office of the clerk of said court on the 18th day of September, 1902.

II. That the following is a brief description of the property thus sold:

One thousand seven hundred and ninety-nine and 70/100 (1799.70) acres of land, more or less, situated on the south shore of the St. Lawrence River, in the town of Massena, St. Lawrence County, New York, and extending to and across the Grasse River in said town and county, and more particularly described in said decree hereinabove referred to, together with the canal constructed on, in or over said land or part thereof, from a point on the St. Lawrence River at or near Dodge's Creek to a point on the Grasse River at or near the said town of Massena, with all head-gates, dams, sluices, conduits, power houses, machinery and appurtenances of every kind and nature, together with all the rights of way for the said canal or works, and all lands acquired by the said St. Lawrence Power Company of Massena, New York, for use in connection with the said canal or appurtenant or adjoining thereto, and all machinery, fixtures, dredges and other tools, implements and movables of every kind acquired for use in connection with the operation of the canal and works of the said St. Lawrence Power Company of Massena, New York, together with all and singular the tenements, hereditaments and appurtenances belonging to the property, or in anywise thereto appertaining, and the reversions, remainders, tolls, incomes, rents, issues and profits thereof, and also all the estate, right, title, interest, property, possession, claim and demand whatsoever as well in law as in equity of the said St. Lawrence Power Company of Massena, New York, of, in and to the same, and any and every part thereof, with the appurtenances, together with all the rights, privileges and franchises corporate, public or municipal, of said St. Lawrence Power Company of Massena, New York, pertaining thereto, and all contracts and leases made by the said St. Lawrence Power Company of Massena, New York, for power to be furnished by the St. Lawrence Power Company of Massena, New York.

III. That at such sale held on the 6th day of November, 1902, the undersigned, Mark T. Cox, became the purchaser of the property and franchises sold, has acquired the title thereto in the manner prescribed by law, and has associated with himself the following persons: Thomas A. Gillespie, Henry P. Davison, William J. Wilson and Samuel E. Potter.

IV. That the name of the new corporation intended to be formed by the filing of this certificate shall be The St. Lawrence River Power Company, and the place where its principal office is to be located is Massena, St. Lawrence County, New York.

V. That the maximum amount of its capital stock shall be seven million dollars (\$7,000,000), and that the number of shares into which the same shall be divided is seventy thousand (70,000) shares of the par value of one hundred dollars (\$100) each, of which three million five hundred thousand dollars (\$3,500,000), or thirty-five thousand (35,000) shares, shall be common stock, and three million five hundred thousand dollars (\$3,500,000), or thirty-five thousand (35,000) shares, shall be preferred stock. That the rights appertaining to each class of such stock shall be as herein specified, to-wit: The preferred stock herein provided for shall be



entitled to receive in each year out of the surplus net profits of the corporation a noncumulative dividend at the rate of six per cent., as and when declared by the board of directors of the Company, before any dividend shall be set apart or paid upon the common stock. After said preferred stock shall have received a dividend of six per cent. for any year as above provided, the common stock shall be entitled to a dividend for the same year, as and when declared by said board of directors, up to six per cent. before any further dividend for such year shall be declared or paid upon the preferred stock. All moneys appropriated to dividends in any year in excess of the dividends of six per cent. upon each class of capital stock as above provided shall be divided equally per share among the holders of the preferred and common stock. In case of the liquidation or dissolution of the corporation, holders of preferred stock shall be entitled to be paid in full the par value of their shares before any amount shall be paid to holders of common stock. Thereafter, holders of common stock shall be entitled to be paid in full the par value of their shares before any amount shall be further paid upon the preferred stock. The remaining assets and funds shall be divided equally per share among the holders of both classes of said capital stock.

VI. That the number of directors who shall manage the affairs of the new corporation shall be five, and the names and post office addresses of the directors for the first year are as follows:—

Thomas A. Gillespie, Massena, New York.

Mark T. Cox, East Orange, New Jersey.

Henry P. Davison, Englewood, New Jersey.

William J. Wilson, 40 Wall St., New York, N.Y.

Samuel E. Potter, 40 Wall St., New York, N.Y.

In witness whereof we, the undersigned, the said purchasers and his associates, have made this certificate in duplicate and have hereunto subscribed our names this 23rd day of December, 1902.

Thomas A. Gillespie.

Mark T. Cox.

Henry P. Davison.

William J. Wilson.

Samuel E. Potter.

State of New York, }  
County of New York. }ss.

On the 23rd day of December, in the year nineteen hundred and two, before me personally came Thomas A. Gillespie, Mark T. Cox, William J. Wilson, Samuel E. Potter and Henry P. Davison, to me known to be the individuals described in and who executed the foregoing certificate of incorporation and severally acknowledged that they executed the same for the uses and purposes therein expressed.

THOMAS L. TEN EYCK,

*Notary Public, No. 76,*

*New York County.*

[Seal.]

(Endorsed.)

## THE ST. LAWRENCE RIVER POWER COMPANY.

## CERTIFICATE OF INCORPORATION.

Tax for privilege of organization of this corporation, \$3,500, under chapter 448, Laws of 1901, paid to State Treasurer before filing.  
State of New York,

Office of Secretary of State.

Filed and recorded, December 24, 1902.

J. B. H. MONGIN,

*Deputy Secretary of State.*

State of New York.        }  
Office of the Secretary of State.}ss.

I have compared the preceding with the original Certificate of Reorganization of the St. Lawrence Power Company of Massena, New York, under the corporate name of The St. Lawrence River Power Company, filed and recorded in this office on the 24th day of December, 1902, and do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of office of the Secretary of State, at the City of Albany, this twenty-third day of August, one thousand nine hundred and eighteen.

A. B. PARKER,

*Deputy Secretary of State.*

**ST. LAWRENCE RIVER POWER COMPANY**  
**EXHIBIT A6.**

Stats. L.,  
vol. 30 pp.  
1151-1155.

**LAWS FOR THE PROTECTION AND PRESERVATION**  
**OF THE NAVIGABLE WATERS OF THE**  
**UNITED STATES.**

*Extract from the River and Harbour Act Approved*  
*March 3, 1899.*

Construction  
of bridges,  
consent of  
Congress  
necessary  
for.

Bridges  
may be built  
under State  
legislation.  
Plans must  
be approved  
before  
construction  
is begun.

Section 9. That it shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbour, canal, navigable river, or other navigable water of the United States until the consent of Congress to the building of such structures shall have been obtained and until the plans for the same shall have been submitted to and approved by the Chief of Engineers and by the Secretary of War: *Provided*, That such structures may be built under authority of the legislature of a State across rivers and other waterways the navigable portions of which lie wholly within the limits of a single State, provided the location and plans thereof are submitted to and approved by the Chief of Engineers and by the Secretary of War before construction is commenced: *And provided further*, That when plans for any

bridge or other structure have been approved by the Chief of Engineers and by the Secretary of War, it shall not be lawful to deviate from such plans either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of War.

Approved plans must be adhered to.

Section 10. That the creation of any obstructions not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbour, canal, navigable river, or other water of the United States, outside established harbour lines, or where no harbour lines have been established, except on plans recommended by the Chief Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbour, canal, lake, harbour of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same.

Creation of obstructions forbidden.

Construction of wharves, etc.

Alteration, etc., of channels.

Section 11. That where it is made manifest to the Secretary of War that the establishment of harbour lines is essential to the preservation and protection of harbours he may, and is hereby, authorized to cause such lines to be established, beyond which no piers, wharves, bulkheads, or other works shall be extended or deposits made, except under such regulations as may be prescribed from time to time by him: *Provided*, That whenever the Secretary of War grants to any person or persons permission to extend piers, wharves, bulkheads, or other works or to make deposits in any tidal harbour or river of the United States beyond any harbour lines established under authority of the United States, he shall cause to be ascertained the amount of tide water displaced by any such structure or by any such deposits, and he shall if he deem it necessary, require the parties to whom the permission is given to make compensation for such displacement either by excavating in some part of the harbour, including tide-water channels between high and low water mark, to such an extent as to create a basin for as much tide water as may be displaced by such structure or by such deposits, or in any other mode that may be satisfactory to him.

Harbor lines, establishment of.

Compensation for tide water displaced by structure and deposits

Section 12. That every person and every corporation that shall violate any of the provisions of sections nine, ten, and eleven of this Act, or any rule or regulation made by the Secretary of War in pursuance of the provisions of the said section eleven, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding twenty-five hundred dollars nor less than five hundred dollars, or by imprisonment (in the case of a natural person) not exceeding

Penalties for violations of three preceding sections. (As amended by section 2 of Act approved



February  
20, 1900,  
vol. 31,  
p. 31.)  
Removal of  
unlawful  
structures.

one year, or by both such punishments, in the discretion of the court. And further, the removal of any structures or parts of structures erected in violation of the provisions of the said sections may be enforced by the injunction of any circuit court exercising jurisdiction in any district in which such structures may exist, and proper proceedings to this end may be instituted under the direction of the Attorney General of the United States.

Deposits of  
refuse, etc.,  
forbidden.

Section 13. That it shall not be lawful to throw, discharge, or deposit, or cause, suffer, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into, any tributary of any navigable water from which the same shall float or be washed into such navigable water; and it shall not be lawful to deposit or cause, suffer, or procure to be deposited material of any kind in any place on the bank of any navigable water, or on the bank of any tributary of any navigable water, where the same shall be liable to be washed into such navigable water, either by ordinary or high tides, or by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed: *Provided*, That nothing herein contained shall extend to, apply to, or prohibit the operations in connection with the improvement of navigable waters or construction of public works, considered necessary and proper by the United States officers supervising such improvement or public work: *And provided further*, That the Secretary of War, whenever in the judgment of the Chief of Engineers anchorage and navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material; and whenever any permit is so granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful.

Lawful  
deposits.

Deposits  
by permits.

Injuries to  
Government  
works, etc.,  
in navigable  
waters.

Section 14. That it shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: *Provided*, That the

Secretary of War may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned public works when in his judgment such occupation or use will not be injurious to the public interest. Permits for occupation of public works.

Section 15. That it shall not be lawful to tie up or anchor vessels or other craft in navigable channels in such a manner as to prevent or obstruct the passage of other vessels or craft; or to voluntarily or carelessly sink, or permit or cause to be sunk, vessels or other craft in navigable channels; or to float loose timber and logs, or to float what is known as sack rafts of timber and logs in streams or channels actually navigated by steamboats in such manner as to obstruct, impede, or endanger navigation. And whenever a vessel, raft, or other craft is wrecked and sunk in a navigable channel, accidentally or otherwise, it shall be the duty of the owner of such sunken craft to immediately mark it with a buoy or beacon during the day and a lighted lantern at night, and to maintain such marks until the sunken craft is removed or abandoned, and the neglect or failure of the said owner so to do shall be unlawful; and it shall be the duty of the owner of such sunken craft to commence the immediate removal of the same, and prosecute such removal diligently, and failure to do so shall be considered as an abandonment of such craft, and subject the same to removal by the United States as hereinafter provided for. Anchoring or sinking of vessels in navigable channels forbidden.  
  
Sunken vessels to be marked.  
  
Failure to remove sunken vessels unlawful.

Section 16. That every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize, or instigate a violation of the provisions of sections thirteen, fourteen, and fifteen of this Act shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding twenty-five hundred dollars nor less than five hundred dollars, or by imprisonment (in the case of a natural person) for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court, one-half of said fine to be paid to the person or persons giving information which shall lead to conviction. And any and every master, pilot and engineer, or person or persons acting in such capacity, respectively, on board of any boat or vessel who shall knowingly engage in towing any scow, boat, or vessel loaded with any material specified in section thirteen of this Act to any point or place of deposit or discharge in any harbour or navigable water, elsewhere than within the limits defined and permitted by the Secretary of War, or who shall wilfully injure or destroy any work of the United States contemplated in section fourteen of this Act, or who shall wilfully obstruct the channel of any waterway in the manner contemplated in section fifteen of this Act, shall be deemed guilty of a violation of this Act, and shall upon conviction be punished as hereinbefore provided in this section, and shall also have his license revoked or suspended for a term to be fixed by the judge before whom tried and convicted. And any boat, vessel, scow, raft, or other Penalties for violations of sections 13, 14, 15.  
  
Liability of masters pilots, etc.

Libel  
against  
boats  
violating  
prohibitions.

craft used or employed in violating any of the provisions of sections thirteen, fourteen, and fifteen of this Act, shall be liable for the pecuniary penalties specified in this section, and in addition thereto for the amount of the damages done by said boat, vessel, scow, raft, or other craft, which latter sum shall be placed to the credit of the appropriation for the improvement of the harbour or waterway in which the damage occurred, and said boat, vessel, scow, raft, or other craft may be proceeded against summarily by way of libel in any district court of the United States having jurisdiction thereof.

Department  
of Justice  
to enforce  
the law.

United  
States  
attorneys to  
prosecute  
offenders.

Section 17. That the Department of Justice shall conduct the legal proceedings necessary to enforce the foregoing provisions of sections nine to sixteen, inclusive, of this Act, and it shall be the duty of district attorneys of the United States to vigorously prosecute all offenders against the same whenever requested to do so by the Secretary of War or by any of the officials hereinafter designated, and it shall furthermore be the duty of said district attorneys to report to the Attorney General of the United States the action taken by him against offenders so reported, and a transcript of such reports shall be transmitted to the Secretary of War by the Attorney General; and for the better enforcement of the said provisions and to facilitate the detection and bringing to punishment of such offenders, the officers and agents of the United States in charge of river and harbour improvements, and the assistant engineers and inspectors employed under them by authority of the Secretary of War, and the United States collectors of customs and other revenue officers, shall have power and authority to swear out process and to arrest and take into custody, with or without process, any person or persons who may commit any of the acts or offences prohibited by the aforesaid sections of this Act, or who may violate any of the provisions of the same: *Provided*, That no person shall be arrested without process for any offense not committed in the presence of some one of the aforesaid officials: *And provided further*, That whenever any arrest is made under the provisions of this Act, the person so arrested shall be brought forthwith before a commissioner, judge, or court of the United States for examination of the offenses alleged against him; and such commissioner, judge, or court shall proceed in respect thereto as authorized by law in case of crimes against the United States.

Officers  
and em-  
ployees of  
United  
States  
to arrest  
offenders.

Parties  
arrested to  
be given a  
hearing.

Bridges  
obstructing  
navigation.

Section 18. That whenever the Secretary of War shall have good reason to believe that any railroad or other bridge now constructed, or which may hereafter be constructed, over any of the navigable waterways of the United States is an unreasonable obstruction to the free navigation of such waters on account of insufficient height, width of span, or otherwise, or where there is difficulty in passing the draw opening or the draw span of such bridge by rafts, steamboats, or other water-craft, it shall be the duty of the said Secretary, first giving the parties reasonable opportunity to be heard, to give notice to the persons



or corporations owning or controlling such bridge so to alter the same as to render navigation through or under it reasonably free, easy, and unobstructed; and in giving such notice he shall specify the changes recommended by the Chief of Engineers that are required to be made, and shall prescribe in each case a reasonable time in which to make them. If at the end of such time the alteration has not been made, the Secretary of War shall forthwith notify the United States district attorney for the district in which such bridge is situated, to the end that the criminal proceedings hereinafter mentioned may be taken. If the persons, corporation, or association owning or controlling any railroad or other bridge shall, after receiving notice to that effect, as hereinbefore required, from the Secretary of War, and within the time prescribed by him wilfully fail or refuse to remove the same or to comply with the lawful order of the Secretary of War in the premises, such persons, corporation, or association shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding five thousand dollars, and every month such persons, corporation, or association shall remain in default in respect to the removal or alteration of such bridge shall be deemed a new offense, and subject the persons, corporation, or association so offending to the penalties above prescribed: *Provided*, That in any case arising under the provisions of this section an appeal or writ of error may be taken from the district courts or from the existing circuit courts direct to the Supreme Court either by the United States or by the defendants.

Notice of alterations.

Proceedings in case of default in making alterations.

Penalty for default in making alterations.

Appeal.

Section 19. That whenever the navigation of any river, lake, harbour, sound, bay, canal, or other navigable waters of the United States shall be obstructed or endangered by any sunken vessel, boat, water-craft, raft, or other similar obstruction, and such obstruction has existed for a longer period than thirty days, or whenever the abandonment of such obstruction can be legally established in a less space of time, the sunken vessel, boat, water-craft, raft, or other obstruction shall be subject to be broken up, removed, sold, or otherwise disposed of by the Secretary of War at his discretion, without liability for any damage to the owners of the same: *Provided*, That in his discretion, the Secretary of War may cause reasonable notice of such obstruction of not less than thirty days, unless the legal abandonment of the obstruction can be established in a less time, to be given by publication, addressed "To whom it may concern," in a newspaper published nearest to the locality of the obstruction, requiring the removal thereof: *And provided also*, That the Secretary of War may, in his discretion, at or after the time of giving such notice, cause sealed proposals to be solicited by public advertisement, giving reasonable notice of not less than ten days, for the removal of such obstruction as soon as possible after the expiration of the above specified thirty days' notice, in case it has not in the meantime been so removed, these proposals and contracts, at his discretion, to be conditioned

Removal of wrecks.

May be broken up and removed without liability.

Proposals for removal may be invited.

Moneys received from sales of wrecks to be deposited in Treasury.

In emergent cases Secretary of War may take immediate possession of and remove wrecks.

Expense of removal to be a charge against vessel and cargo.

Appropriation for removing wrecks.

Repeal of previous laws. (As amended by section 12 of the River and Harbor Cct approved June 13, 1902, vol. 32, p. 375.)

that such vessel, boat, water-craft, raft, or other obstruction, and all cargo and property contained therein, shall become the property of the contractor, and the contract shall be awarded to the bidder making the proposition most advantageous to the United States: *Provided*, That such bidder shall give satisfactory security to execute the work: *Provided further*, That any money received from the sale of any such wreck, or from any contractor for the removal of wrecks, under this paragraph shall be covered into the Treasury of the United States.

Section 20. That under emergency, in case of any vessel, boat, water-craft, or raft, or other similar obstruction, sinking or grounding, or being unnecessarily delayed in any Government canal or lock, or in any navigable waters mentioned in section nineteen, in such manner as to stop, seriously interfere with, or specially endanger navigation, in the opinion of the Secretary of War, or any agent of the United States to whom the Secretary may delegate proper authority, the Secretary of War or any such agent shall have the right to take immediate possession of such boat, vessel, or other water-craft, or raft, so far as to remove or to destroy it and to clear immediately the canal, lock, or navigable waters aforesaid of the obstruction thereby caused, using his best judgment to prevent any unnecessary injury; and no one shall interfere with or prevent such removal or destruction: *Provided*, That the officer or agent charged with the removal or destruction of an obstruction under this section may in his discretion give notice in writing to the owners of any such obstruction requiring them to remove it: *And provided further*, That the expense of removing any such obstruction as aforesaid shall be a charge against such craft and cargo; and if the owners thereof fail or refuse to reimburse the United States for such expense within thirty days after notification, then the officer or agent aforesaid may sell the craft or cargo, or any part thereof that may not have been destroyed in removal, and the proceeds of such sale shall be covered into the Treasury of the United States.

Such sum of money as may be necessary to execute this section and the preceding section of this Act is hereby appropriated out of any money in the Treasury not otherwise appropriated, to be paid out on the requisition of the Secretary of War.

That all laws or parts of laws inconsistent with the foregoing sections nine to twenty, inclusive, of this Act are hereby repealed: *Provided*, That no action begun or right of action accrued prior to the passage of this Act shall be affected by this repeal: *Provided further*, That nothing contained in the said foregoing sections shall be construed as repealing, modifying, or in any manner affecting the provisions of an Act of Congress approved June twenty-ninth, eighteen hundred and eighty-eight, entitled 'An Act to prevent obstructive and injurious deposits within the harbour and adjacent waters of New York City, by dumping or otherwise, and to punish or prevent such offenses,'

as amended by section three of the River and Harbour Act of August eighteenth, eighteen hundred and ninety-four.

*Extract from the River and Harbour Act Approved*

*June 13, 1902.*

Section 6. That any regulations heretofore or hereafter prescribed by the Secretary of War in pursuance of the fourth and fifth sections of the river and harbour Act of August eighteenth, eighteen hundred and ninety-four, and any regulations hereafter prescribed in pursuance of the aforesaid section four as amended by section eleven of this Act, may be enforced as provided in section seventeen of the river and harbour Act of March third, eighteen hundred and ninety-nine, the provisions whereof are hereby made applicable to the said regulations.

Stats. L.,  
vol. 32,  
p. 374.

Enforcing  
rules for  
navigable  
waters.

Section 10. That the provisions of section nine of the river and harbour Act of March third, eighteen hundred and ninety-nine, are hereby made applicable alike to the completed and uncompleted portions of the Illinois and Mississippi Canal. Whenever the Secretary of War shall approve plans for a bridge to be built across said canal he may, in his discretion, and subject to such terms and conditions as in his judgment are equitable, expedient, and just to the public, grant to the person or corporation building and owning such bridge a right of way across the lands of the United States on either side of and adjacent to the said canal; also the privilege of occupying so much of said lands as may be necessary for the piers, abutments, and other portions of the bridge structure and approaches.

Bridges  
and rights  
of way  
across  
Illinois and  
Mississippi  
Canal.

*Extract from the River and Harbour Act of*

*August 18, 1894.*

Section 4. [As amended by section 11 of the river and harbour Act of June 13, 1902.] That it shall be the duty of the Secretary of War to prescribe such rules and regulations for the use, administration, and navigation of any or all canals and similar works of navigation that now are, or that hereafter may be, owned, operated, or maintained by the United States as in his judgment the public necessity may require; and he is also authorized to prescribe regulations to govern the speed and movement of vessels and other water-craft in any public navigable channel which has been improved under authority of Congress, whenever, in his judgment, such regulations are necessary to protect such improved channels from injury, or to prevent interference with the operations of the United States in improving navigable waters or injury to any plant that may be employed in such operations. Such rules and regulations shall be posted, in conspicuous and appropriate places, for the information of the public; and every person and every corporation which shall violate such rules and regulations shall be deemed guilty of a misdemeanor and, on conviction thereof in any district court of the United States within whose territorial jurisdic-

Stats. L.,  
vol. 28,  
pp. 362-363.  
Regulations,  
river and  
similar  
works.

Penalties  
for  
violations.



tion such offense may have been committed, shall be punished by a fine not exceeding five hundred dollars, or by imprisonment (in the case of a natural person) not exceeding six months, in the discretion of the court.

Draw-  
bridges.  
Regulations  
for opening  
to be  
published.

Penalties  
for  
violations.

*Provisos.*  
*Proceedings.*

Secretary  
of War  
may make  
rules, etc.

Section 5. That it shall be the duty of all persons owning, operating and tending the drawbridges now built, or which may hereafter be built across the navigable rivers and other waters of the United States, to open, or cause to be opened, the draws of such bridges under such rules and regulations as in the opinion of the Secretary of War the public interests require to govern the opening of drawbridges for the passage of vessels and other water-crafts, and such rules and regulations, when so made and published, shall have the force of law. Every such person who shall wilfully fail or refuse to open, or cause to be opened, the draw of any such bridge for the passage of a boat or boats, or who shall unreasonably delay the opening of said draw after reasonable signal shall have been given, as provided in such regulations, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not more than two thousand dollars nor less than one thousand dollars, or by imprisonment (in the case of a natural person) for not exceeding one year, or by both such fine and imprisonment, in the discretion of the court: *Provided*, That the proper action to enforce the provisions of this section may be commenced before any commissioner, judge, or court of the United States, and such commissioner, judge, or court shall proceed in respect thereto as authorized by law in case of crimes against the United States: *Provided further*, That whenever, in the opinion of the Secretary of War, the public interests require it, he may make rules and regulations to govern the opening of drawbridges for the passage of vessels and other water-crafts, and such rules and regulations, when so made and published, shall have the force of law, and any violation thereof shall be punished as hereinbefore provided.

*Act Approved May 9, 1900.*

Stats. L.,  
vol. 31,  
p. 172.

Navigation.  
Exemption  
from  
prohibition  
against  
floating  
sack rafts  
in streams  
navigated by  
steamboats.  
Vol. 30,  
p. 1152.

CHAP. 387.—An Act Authorizing the Secretary of War to make regulations governing the running of loose logs, steamboats, and rafts on certain rivers and streams.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the prohibition contained in section fifteen of the river and harbour Act, approved March third, eighteen hundred and ninety-nine, against floating loose timber and logs, or sack rafts, so called, of timber and logs in streams or channels actually navigated by steamboats, shall not apply to any navigable river or waterway of the United States or any part thereof whereon the floating of loose timber and logs and sack rafts of timber and logs is the principal method of navigation. But such method of navigation on such river or waterway or part thereof shall be subject to the rules and regulations prescribed by the Secretary of War as hereinafter provided.

Section 2. That the Secretary of War shall have power, and he is hereby authorized and directed, within the shortest practicable time after the passage hereof, to prescribe rules and regulations, which he may at any time modify, to govern and regulate the floating of loose timber and logs, and sack rafts, (so called) of timber and logs and other methods of navigation on the streams and waterways, or any thereof, of the character, as to navigation, in section one hereof described. The said rules and regulations shall be so framed as to equitably adjust conflicting interests between the different methods or forms of navigation; and the said rules and regulations shall be published at least once in such newspaper or newspapers of general circulation as in the opinion of the Secretary of War shall be best adapted to give notice of said rules and regulations to persons affected thereby and locally interested therein. And all modifications of said rules and regulations shall be similarly published. And such rules and regulations when so prescribed and published as to any such stream or waterway shall have the force of law, and any violation thereof shall be a misdemeanor, and every person convicted of such violation shall be punished by a fine of not exceeding two thousand five hundred dollars nor less than five hundred dollars or by imprisonment (in case of a natural person) for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court: *Provided*, That the proper action to enforce the provisions of this section may be commenced before any commissioner, judge, or court of the United States, and such commissioner, judge or court shall proceed in respect thereto as authorized by law in the case of crimes or misdemeanors committed against the United States.

Secretary of War to make regulations for floating logs, rafts, etc.

—publication.

—force.

—penalty.

*Proviso.*  
Procedure.

Section 3. That the right to alter, amend, or repeal this Act at any time is hereby reserved.

Amendment.

Section 4. That this Act shall not, nor shall any rules or regulations prescribed thereunder, in any manner affect any civil action or actions heretofore commenced and now pending to recover damages claimed to have been sustained by reason of the violation of any of the terms of said section fifteen, as originally enacted, or in violation of any other law.

Pending actions unaffected.

Approved, May 9, 1900.

*Extract from the River and Harbour Act Approved  
March 3, 1905.*

Section 4. That the Secretary of War is hereby authorized and empowered to prescribe regulations to govern the transportation and dumping into any navigable water, or waters adjacent thereto, of dredgings, earth, garbage, and other refuse materials of every kind or description, whenever in his judgment such regulations are required in the interest of navigation. Such regulations shall be posted in conspicuous and appropriate places for the information of the public; and every person or corporation which shall violate the said regulations, or any of them,

Stats. L.,  
vol. 33.

Secretary of war to make regulations for transportation and dumping of dredgings etc.

Penalties  
for  
violations.  
Vol. 30,  
pp. 1152,  
1153.

*Provisos.*  
Enforce-  
ment.  
Vol. 30,  
p. 1153.

Exemption  
as to  
waters used  
for cultiva-  
tion of  
oysters.

Expenses.

Expenses  
incidental  
to exam-  
inations, etc.  
relative  
to bridges,  
harbor  
lines, etc.

Stats. L.,  
vol. 38.

Anchorage  
grounds.  
Establish-  
ment of, and  
adoption and  
enforce-  
ment of  
rules and  
regulations.

shall be deemed guilty of a misdemeanor and shall be subject to the penalties in section sixteen of the river and harbour Act of March third, eighteen hundred and ninety-nine, for violation of the provisions of section thirteen of the said Act: *Provided*, That any regulations made in pursuance hereof may be enforced as provided in section seventeen of the aforesaid Act of March third, eighteen hundred and ninety-nine. the provisions whereof are hereby made applicable to the said regulations: *Provided further*, That this section shall not apply to any waters within the jurisdictional boundaries of any State which are now or may hereafter be used for the cultivation of oysters under the laws of such State, except navigable channels which have been or may hereafter be improved by the United States, or to be designated as navigable channels by competent authority, and in making such improvements of channels, the material dredged shall not be deposited upon any ground in use in accordance with the laws of such State for the cultivation of oysters, except in compliance with said laws: *And provided further*, That any expense necessary in executing this section may be paid from funds available for the improvement of the harbour or waterway, for which regulations may be prescribed, and in case no such funds are available the said expense may be paid from appropriations made by Congress for examinations, surveys, and contingencies of rivers and harbours.

Section 6. That expenses incurred by the Engineer Department in all investigations, inspections, hearings, reports, service of notice, or other action incidental to examination of plans or sites of bridges or other structures built or proposed to be built in or over navigable waters, or to examinations into alleged violations of laws for the protection and preservation of navigable waters, or to the establishment or marking of harbour lines, shall be payable from any funds which may be available for the improvement, maintenance, operation, or care of the waterways or harbours affected, or if such funds are not available in sums judged by the Chief of Engineers to be adequate, then from any funds available for examinations, surveys, and contingencies of rivers and harbours.

*Extract from the River and Harbour Act Approved  
March 4, 1915.*

Section 7. That the Secretary of War is hereby authorized, empowered, and directed to define and establish anchorage grounds for vessels in all harbours, rivers, bays, and other navigable waters of the United States whenever it is manifest to the said Secretary that the maritime or commercial interests of the United States require such anchorage grounds for safe navigation and the establishment of such anchorage grounds shall have been recommended by the Chief of Engineer, and to adopt suitable rules and regulations in relation thereto; and such rules and regulations shall be enforced by the Revenue-Cutter Service under the direction of the Secretary of the Treasury: *Pro-*



*vided*, That at ports or places where there is no revenue cutter available such rules and regulations may be enforced by the Chief of Engineers under the direction of the Secretary of War. In the event of the violation of any such rules and regulations by the owner, master, or person in charge of any vessel, such owner, master, or person in charge of such vessel shall be liable to a penalty of \$100; and the said vessel may be holden for the payment of such penalty, and may be seized and proceeded against summarily by libel for the recovery of the same in any United States district court for the district within which such vessel may be and in the name of the officer designated by the Secretary of War.

### ST. LAWRENCE RIVER POWER COMPANY, EXHIBIT A8.

PERMIT OF U. S. SECRETARY OF WAR FOR CONSTRUCTION  
OF PERMANENT JETTY IN THE SOUTH CHANNEL OF  
THE ST. LAWRENCE RIVER, AUGUST 3, 1903.

WAR DEPARTMENT, WASHINGTON,

August, 3, 1903.

File No. 4794-1.

SIR,—Referring to your application of 22nd ultimo, addressed to Major Theodore A. Bingham, Corps of Engineers, U.S. Army, I transmit, herewith, for retention, an instrument, granting the Saint Lawrence River Power Company permission to construct and maintain a new dike in the Saint Lawrence River, at location and as shown on drawing attached to said instrument, subject to the conditions set forth therein.

Very respectfully,

ELIHU ROOT,

*Secretary of War.*

Mr. T. A. GILLESPIE, *President*,  
St. Lawrence River Power Co.,  
No. 11 Pine Street,  
New York, N.Y.

(Inclosure: Instrument—2 of 4794.)

Whereas, by Section 10 of an Act of Congress, approved March 3, 1899, entitled "An Act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbours, and for other purposes," it is provided that it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or

of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same;

And whereas, under date of August 30, 1901, the Secretary of War granted permission unto the St. Lawrence Power Company of Massena, New York, to build and maintain a permanent jetty in the St. Lawrence River at the entrance to said Company's power canal, at the location shown on the drawing attached to said permit;

And whereas, the said structure has been partially constructed, but not satisfactorily serving the purpose for which it was designed, the Saint Lawrence River Power Company, successor to the said St. Lawrence Power Company, has applied to the Secretary of War for permission to change said dike construction, and to build and maintain the same at a different location, at said place, as shown on the attached drawing;

Now, therefore, this is to certify that, in accordance with the recommendation of the Chief of Engineers, the Secretary of War hereby gives permission unto the Saint Lawrence River Power Company, successor to the St. Lawrence Power Company, to construct and maintain a new dike in the St. Lawrence River, at said place, as shown on said drawing, subject to the following conditions:

1. That the existing dike shall be completely removed by said Saint Lawrence River Power Company at its own expense.

2. That the work herein permitted and required to be done shall be subject to the supervision and approval of the Engineer Officer of the United States Army in charge of the locality.

3. That if at any time in the future it shall be made to appear to the Secretary of War that the construction herein authorized is an unreasonable obstruction to the free navigation of said waters, said licensee will be required, upon due notice from the Secretary of War, to remove or alter the same so as to render navigation through said waters reasonably free, easy, and unobstructed.

4. That this permission is given in lieu of that granted by said instrument of August 30, 1901, hereinbefore referred to; which said instrument of August 30, 1901, is hereby revoked.

It is understood that this instrument simply gives permission under said Act of Congress to do the work herein authorized; that it does not give any property rights, and does not authorize any injury to private property or invasion of private rights.

Witness my hand this Third day of August, 1903.

ELIHU ROOT,  
*Secretary of War.*

United States Seal.

## ST. LAWRENCE RIVER POWER COMPANY EXHIBIT A7.

PERMIT OF U.S. SECRETARY OF WAR FOR CONSTRUCTION  
OF SUBMERGED WEIR IN THE SOUTH CHANNEL OF THE  
ST. LAWRENCE RIVER, SEPTEMBER 10, 1917.

## PERMIT.

Whereas, by Section 10 of an Act of Congress, approved March 3, 1899, entitled "An Act making appropriations for the construction, repair and preservation of certain public works on rivers and harbours, and for other purposes," it is provided that it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same;

And whereas, application has been made to the Secretary of War by The St. Lawrence River Power Company, for authority to extend to Long Sault Island, by means of a submerged weir, the jetty or deflecting dike in the south channel of the St. Lawrence River at the mouth of its power canal at Massena, New York, the plans for which have been recommended by the Chief of Engineers;

Now therefore, this is to certify that the Secretary of War hereby authorizes the said work of extending to Long Sault Island, by means of a submerged weir, the jetty or deflecting dike of the St. Lawrence River Power Company in the south channel of the St. Lawrence River at the mouth of its power canal at Massena, New York, as shown on the plans hereto attached, subject to the approval of the International Joint Commission, and upon the following conditions:

1. That it is to be understood that this authority does not give any property rights either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining State assent to the work authorized. It merely expresses the assent of the Federal Government so far as concerns the public rights of navigation. (See *Cummings v. Chicago*, 188, U.S., 410.)

2. That the work shall be subject to the supervision and approval of the Engineer Officer of the United States Army in charge of the locality, who may temporarily suspend the work at any time if, in his judgment, the interests of navigation so require.

3. That if any pipe, wire, or cable is herein authorized, it shall be placed and maintained with a clearance not less than shown by the profile on the plan attached hereto.



4. That so far as any material is dredged in the prosecution of the work herein authorized it shall be removed evenly, and no large refuse piles shall be left. It shall be deposited to the satisfaction of the said engineer officer and in accordance with his prior permission or instructions, either on shore above high water or at such dumping ground as may be designated by him, and where he may so require, within or behind a good and substantial bulkhead or bulkheads, such as will prevent escape of the material into the waterway; and so far as the pipe, wire, or cable is laid in a trench, the formation of permanent ridges across the bed of the waterway shall be avoided and the back filling shall be so done as not to increase the cost of future dredging for navigation. If the material is to be deposited in the harbor of New York, or in its adjacent or tributary waters, or in Long Island Sound, a permit therefor must be previously obtained from the Supervisor of New York Harbor, Army Building, New York City.

5. That there shall be no unreasonable interference with navigation by the work herein authorized.

6. That if inspections or any other operations by the United States are necessary in the interests of navigation, all expenses connected therewith shall be borne by the permittee.

7. That the permittee assumes all responsibility for damages to the work or structure herein authorized, and for damages caused by it or by his work in connection therewith to passing vessels or other craft, and that he shall not attempt in any way to prevent free use by the public of the area at or adjacent to the work or structure.

8. That if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of War, it shall cause unreasonable obstruction to the free navigation of said water, the permittee will be required, upon due notice from the Secretary of War, to remove or alter the structural work or obstructions caused thereby without expense to the United States so as to render navigation reasonably free, easy, and unobstructed; and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the permittee, at his own expense, and to such extent and in such time and manner as the Secretary of War may require, shall remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the watercourse. No claims shall be made against the United States on account of any such removal or alteration.

9. That if the display of lights and signals on any work hereby authorized is not otherwise provided for by law, such lights and signals as may be prescribed by the Bureau of Lighthouses, Department of Commerce, shall be installed and maintained by and at the expense of the permittee.

10. That the permittee shall notify the said engineer officer at what time the work will be commenced, and as far in advance of the time of commencement as the said engineer officer may specify, and shall also notify him promptly, in writing, of the commencement of work, suspension of work, if for a period of more than one week, resumption of work, and its completion.

11. That if the structure or work herein authorized is not completed and written notice of completion is not filed with the aforesaid engineer

officer on or before the 31st day of December, 1919, this authorization, if not previously revoked or specifically extended, shall cease and be null and void.

12. That if any additional power is made available by means of such structures, and used by the permittee or its assigns, the Secretary of War shall in the public interest have authority to control and regulate the price of any product manufactured by means of such additional power, or if such power is sold to others by the permittee, to control and regulate the price therefor.

Witness my hand this 10th day of September, 1917.

NEWTON D. BAKER,

*Secretary of War.*

### ST. LAWRENCE RIVER POWER COMPANY EXHIBIT A10.

#### PERMIT OF U. S. SECRETARY OF WAR FOR CONSTRUCTION OF ICE BOOM IN THE SOUTH CHANNEL OF THE ST. LAW- RENCE RIVER, September 10, 1917

Whereas by Section 10 of an Act of Congress, approved March 3, 1899, entitled "An Act making appropriation for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes," it is provided that it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same;

And whereas, application has been made to the Secretary of War by The St. Lawrence River Power Company for authority to construct an ice boom, supported by 14 stone-filled timber cribs, in the south channel of the St. Lawrence River, extending from Talcott's Point to Delaney's Island, and to dredge a channel 150 feet wide and approximately 20 feet deep from deep water at a point approximately 250 feet above the boom to a distance of approximately 1,000 feet below the boom, depositing the dredged material within the area (indicated upon the plans) immediately northwest of the entrance to the Massena power canal; the plans for which have been recommended by the Chief of Engineers.

Now therefore, this is to certify that the Secretary of War hereby authorizes the said work of ice-boom constructions, dredging, and dumping of dredged material, in the south channel of the St. Lawrence River, at the locations above described and as shown on the plans hereto attached, upon the following conditions:—

1. That it is to be understood that this authority does not give any property rights either in real estate or material or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights; or any infringement of Federal, State, or local laws or regulations nor does it obviate the necessity of obtaining State assent to the work authorized. It merely expresses the assent of the Federal Government so far as concerns the public rights of navigation. (See *Cummings v. Chicago*, 188 U.S., 410.)

2. That the work shall be subject to the supervision and approval of the Engineer Officer of the United States Army in charge of the locality, who may temporarily suspend the work at any time if, in his judgment, the interests of navigation so require.

3. That if any pipe, wire, or cable is herein authorized it shall be placed and maintained with a clearance not less than that shown by the profile on the plan attached hereto.

4. That so far as any material is dredged in the prosecution of the work herein authorized it shall be removed evenly, and no large refuse piles shall be left. It shall be deposited to the satisfaction of the said engineer officer and in accordance with his prior permission or instructions, either on shore or above high water or at such dumping ground as may be designated by him, and where he may so require, within or behind a good and substantial bulkhead or bulkheads, such as will prevent escape of the material into the waterway; and so far as the pipe, wire, or cable is laid in a trench, the formation of permanent ridges across the bed of the waterway shall be avoided and the back filling shall be so done as not to increase the cost of future dredging for navigation. If the material is to be deposited in the harbor of New York, or in its adjacent or tributary waters, or in Long Island Sound, a permit therefor must be previously obtained from the Supervisor of New York Harbor, Army Building, New York City.

5. That there shall be no unreasonable interference with navigation by the work herein authorized.

6. That if inspections or any other operations by the United States are necessary in the interests of navigation, all expenses connected therewith shall be borne by the permittee.

7. That the permittee assumes all responsibility for damages to the work or structure herein authorized, and for damage caused by it or by his work in connection therewith to passing vessels or other craft, and that he shall not attempt in any way to prevent free use by the public of the area at or adjacent to the work or structure.

8. That if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of War, it shall cause unreasonable obstruction to the free navigation of said water, the permittee will be required, upon due notice from the Secretary of War, to remove or alter the structural work or obstructions caused thereby without expense to the United States so as to render navigation reasonably free, easy, and unobstructed; and if,



upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the permittee, at his own expense, and to such extent and in such time and manner as the Secretary of War may require, shall remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the watercourse. No claim shall be made against the United States on account of any such removal or alteration.

9. That if the display of lights and signals on any work hereby authorized is not otherwise provided for by law, such lights and signals as may be prescribed by the Bureau of Lighthouses, Department of Commerce, shall be installed and maintained by and at the expense of the permittee.

10. That the permittee shall notify the said engineer officer at what time the work will be commenced, and as far in advance of the time of commencement as the said engineer officer may specify, and shall also notify him promptly, in writing, of the commencement of work, suspension of work, if for a period of more than one week, resumption of work, and its completion.

11. That if the structure or work herein authorized is not completed and written notice of completion is not filed with the aforesaid engineer officer on or before the 31st day of December, 1919, this authorization, if not previously revoked or specifically extended, shall cease and be null and void.

12. That the instruments executed July 10th, 1901, and March 20th, 1903, authorizing The Saint Lawrence Power Company and The Saint Lawrence River Power Company, respectively, to dredge a channel through the shoal in the St. Lawrence River at the head of Long Sault Island, are hereby revoked.

Witness my hand this 10th day of September, 1917.

NEWTON D. BAKER,

*Secretary of War.*

## **ST. LAWRENCE RIVER POWER COMPANY, EXHIBIT A9.**

**PERMIT OF U. S. SECRETARY OF WAR FOR CONSTRUCTION OF ICE BOOM IN THE SOUTH CHANNEL OF THE ST. LAWRENCE RIVER, APRIL 20, 1918.**

### **PERMIT.**

Whereas, by Section 10 of an act of Congress, approved March 3, 1899, entitled "An Act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes," it is provided that it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any

manner to alter or modify the course, location, condition, or capacity of any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same;

And whereas, Application has been made to the Secretary of War by The St. Lawrence River Power Company, Pittsburg, Pennsylvania, for authority to construct an ice boom supported by stone-filled timber cribs in the south channel of the St. Lawrence River, extending from the vicinity of Talcott's Point to Delaney Island; to dredge a channel 150 feet wide and approximately 20 feet deep in said south channel at the location shown in red on plans submitted by the applicant and hereto attached, depositing the dredged material within the area indicated in red upon said plans; and to construct a wing dam extending from the main shore above Talcott's Point to the upstream margin of the dredged channel, for the purpose of directing the flow of water and ice across four ice-diverting channels which will connect deep water with the channel to be dredged; which work and the said plans therefor have been recommended by the Chief of Engineers;

Now, therefore, this is to certify that the Secretary of War hereby authorizes the said work of ice boom and wing dam construction, dredging and depositing of dredged material, in the south channel of the St. Lawrence River, as described above and at the locations and as shown on the plans hereto attached, upon the following conditions:

1. That it is to be understood that this authority does not give any property rights either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining State assent to the work authorized. It merely expresses the assent of the Federal Government so far as concerns the public rights of navigation. (See *Cummings v. Chicago*, 188 U.S., 410.)

2. That the work shall be subject to the supervision and approval of the District Engineer, Engineer Department at Large, in charge of the locality, who may temporarily suspend the work at any time if, in his judgment, the interest of navigation so require.

3. That if any pipe, wire, or cable is herein authorized it shall be placed and maintained with a clearance not less than that shown by the profile on the plan attached hereto.

4. That so far as any material is dredged in the prosecution of the work herein authorized it shall be removed evenly, and no large refuse piles shall be left. It shall be deposited to the satisfaction of the said district engineer and in accordance with his prior permission or instructions, either on shore above high water or at such dumping ground as may be designated by him, and where he may so require, within or behind a good and substantial bulkhead or bulkheads, such as will prevent escape of the material into the waterway; and so far as the pipe, wire, or cable is laid in a trench, the formation of permanent ridges across the bed of the waterway shall be avoided and the back filling shall be so done as not to increase the cost of future dredging for navigation. If the material is

to be deposited in the harbor of New York, or in its adjacent or tributary waters, or in Long Island Sound, a permit therefor must be previously obtained from the Supervisor of New York Harbor, Army Building, New York City.

5. That there shall be no unreasonable interference with navigation by the work herein authorized.

6. That if inspections or any other operations by the United States are necessary in the interests of navigation, all expenses connected therewith shall be borne by the permittee.

7. That the permittee assumes all responsibility for damages to the work or structure herein authorized, and for damage caused by it or by work of the permittee in connection therewith to passing vessels or other craft, and shall not attempt in any way to prevent free use by the public of the area at or adjacent to the work or structure.

8. That if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of War, it shall cause unreasonable obstruction to the free navigation of said water, the permittee will be required, upon due notice from the Secretary of War, to remove or alter the structural work or obstructions caused thereby without expense to the United States so as to render navigation reasonably free, easy, and unobstructed; and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the permittee, shall, without expense to the United States, and to such extent and in such time and manner as the Secretary of War may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the watercourse. No claim shall be made against the United States on account of any such removal or alteration.

9. That if the display of lights and signals on any work hereby authorized is not otherwise provided for by law, such lights and signals as may be prescribed by the Bureau of Lighthouses, Department of Commerce, shall be installed and maintained by and at the expense of the permittee

10. That the permittee shall notify the said district engineer at what time the work will be commenced, and as far in advance of the time of commencement as the said district engineer may specify, and shall also notify him promptly, in writing, of the commencement of work, suspension of work, if for a period of more than one week, resumption of work, and its completion.

11. That if the structure or work herein authorized is not completed and written notice of completion is not filed with the aforesaid district engineer on or before the 31st day of December, 1919, this authorization, if not previously revoked or specifically extended, shall cease and be null and void.

12. That this instrument is issued in lieu of and supersedes the instrument, dated September 10, 1917, covering the work herein authorized.

Witness my hand this 20th day of April, 1918.

B. CROWELL,  
*Assistant Secretary of War.*



## II.

## DOMINION OF CANADA EXHIBIT A.

## LONG SAULT DEVELOPMENT COMPANY,

MASSENA, N.Y., October 26, 1910.

Mr. W. A. BOWDEN,  
 Chief Engineer,  
 Department of Railways and Canals,  
 Ottawa.

DEAR SIR,—Complying with your request, I beg leave to submit herewith the following data pertaining to our proposed development at the foot of the South Sault Channel:

Report on the effect in Canadian waters of a power house built in the South Sault Channel.

Description of the works proposed by the St. Lawrence Power Company, Limited, and the Long Sault Development Company, in the St. Lawrence River near Barnhart Island.

Data on Ice jams in the St. Lawrence River, between Morrisburg and Cornwall, including blue-print copies of our drawings, C-8-X, A-84-M, E-146-M, E-169-M.

I wish to call your particular attention to the fact that the question which will be presented to you for action pertains only to the construction of a power house at the foot of the South Sault Channel, but I am sending to you at this time a brief description of the works proposed by the St. Lawrence Power Company, Ltd. and the Long Sault Development Company in the ultimate development of the power of the Long Sault.

Every feature in the construction of the South Sault power house will be made to conform with the general plan for ultimately completing the development of the Long Sault, so that in the future, if these larger works are authorized, no hindrance to the scheme will be caused by the South Sault development now under consideration.

The report on the effect of the South Sault power house covers all possible combinations that will be encountered when this power house is constructed, and also after it is completed and in operation.

The discharge curves on Sheet 2 opposite page 6, show the gage heights that will occur at Lock 21 when there is no water flowing through the South Channel during the construction period when the South Sault Channel is obstructed by a coffer dam. The maximum floods of 1862 and 1866, as shown on Sheet 3, opposite page 6 of the report, allowed 1.06' free-board between the surface of the water and the coping of Lock 21. If such a flood should occur while the South Sault coffer dam is in place, during the construction period, the water would over-top the coping of the lock about 6". Hence, for safety, the coping of Lock 21 and the dike above the lock should be raised, say 2' or 2½', and the height of the lock gates should be correspondingly increased, so as to make the top flush with the lock coping.

These changes are simple and comparatively inexpensive. They can be made without the slightest interruption to navigation and the entire cost of these changes will be absorbed by the Long Sault Development

Company. The construction work involved in making these changes will either be made by this Company, under Government supervision, or it may be done by the Canadian Government and the cost thereof will be paid by us.

Sheet 3 shows the maximum and the minimum gage heights recorded at Lock 21 during the months May to November, inclusive, for the entire period 1849 to 1909 inclusive, except 1900, for which year the data were not available to me. At the end of this letter I attach a table showing the gage heights and corresponding elevations above mentioned, and also give the references as to where these data are to be found in the Annual Reports of the Department of Railways and Canals. This will enable you to check the above very readily.

The sea level elevations referred to on Sheets 2 and 3 are all referred to the United States 1903 adjusted levels, and the elevation of the sill of Lock 21, according to these levels, is elevation 184.11, instead of 185.03, as given in Whites "Altitudes in Canada," page 180, line 9, the correction being minus 0.92', to reduce White's elevations, as shown on this page to the United States 1903 adjusted levels. This is based on information given me personally by Mr. White.

The description of our proposed ultimate development is sent you at this time in order to acquaint you with the general scheme. This is the complete development that has already been reported upon by your esteemed predecessor, Mr. M. J. Butler.

I thought you would be interested in the map bound in the back of this description, as it will give you a general idea of the location of the dams, power houses, canals, sluice gates, etc. This description shows the complete works ultimately proposed by the St. Lawrence Power Company, Limited, and the Long Sault Development Company.

The survey to obtain the information regarding ice jams was started originally in 1904, and extended from Cornwall to the head of Long Sault Island, and in 1907, when I became Chief Engineer of this company, I had this survey continued westerly from the head of Long Sault Island to Morrisburg. Consequently the 1905 flood marks and the profile thereof can only be shown between the head of Long Sault Island and Morrisburg. The general flood elevation, however, east of Long Sault Island, did not materially differ from the 1887 flood, which is shown in the profile accompanying the ice jam report.

I respectfully call your attention to page 7 of the description of the works proposed by the two companies, where a table of the flood levels and the normal surface levels, and also the back water rise for 1887 flood, is shown; also, to pages 4, 5 and 6, of the Data on Ice Jams. The facts there recited show that there is not the slightest connection between the ice jams east of Long Sault Island and the ice jams west of Croil Island. The former ice jams are caused entirely by frazil ice forming hanging dams in Lake St. Francis. The latter ice jams are formed by ice bridges between Croil Island and the main land, on both sides of the river, followed by severe cold weather, and the ice forming in the river from bank to bank west of Croil Island and creating an ice dam, as it were, in the constricted channel between Bradford's Point, on the New York side, and Weaver's Point, on the Canadian side. This is shown most conclusively on the flood profiles submitted herewith.

The stretch of river between the east end of Croil Island and the west end of Barnhart Island has never been known to become congested with ice.

It is interesting to note that the 1887 ice jam raised the river level at the head of Barnhart Island to the same elevation that we propose raising the level under the complete development of the Long Sault, thus, as it were, furnishing a temporary dam between the foot of the Long Sault Island and the head of Barnhart Island, which caused the same back water rise at Lock 21 that our proposed dams would cause, and the back water under these conditions amounted to 4.0'.

The computed back water as determined by six different engineers, independently of each other, amounts to from 3.1' to 3.7'. Thus we have an actual check by existing conditions on our computations.

If there are any further data that you desire, or additional information on this entire question, I will be pleased to furnish it; or, if you wish, I will be pleased to meet you in Ottawa at any time, and explain any of the maps, profiles, or other data that are submitted herewith, or that have been submitted to your Department in the past.

I expect to leave to-morrow for a week's absence, but upon my return my time will be at your disposal.

Thanking you for the courtesy of your attention, I remain,

Yours truly,

LONG SAULT DEVELOPMENT COMPANY,

J. W. RICKEY,

*Chief Engineer.*



TABLE Showing the Highest and Lowest Water on the Sills of Lock 21  
for the Period 1849-1909, Inclusive.

(Navigation Season, May-November, each Year.)

Year.	Max. Depth on Sill.	Elev.	Min. Depth on Sill.	Elev.
1849.....	10 58	201 11	8 50	199 03
1850.....	10 83	201 36	8 00	198 53
1851.....	11 00	201 53	9 08	199 61
1852.....	12 00	202 53	9 42	199 95
1853.....	12 16	202 69	10 08	200 61
1854.....	11 42	201 95	9 25	199 78
1855.....	11 00	201 53	9 16	199 69
1856.....	11 83	202 36	9 08	199 61
1857.....	11 83	202 36	9 33	199 86
1858.....	12 67	203 20	11 00	201 53
1859.....	12 75	203 28	10 25	200 78
1860.....	12 83	203 36	8 92	199 45
1861.....	12 58	203 11	11 16	201 69
1862.....	12 92	203 45	10 16	200 69
1863.....	12 16	202 69	10 08	200 61
1864.....	12 08	202 61	10 08	200 61
1865.....	11 83	202 36	9 08	199 61
1866.....	11 58	202 11	9 42	199 95
1867.....	12 42	202 95	9 33	199 86
1868.....	10 67	201 20	8 83	199 36
1869.....	11 67	202 20	9 75	200 28
1870.....	12 75	203 28	10 33	200 86
1871.....	11 33	201 86	8 33	198 86
1872.....	9 83	200 36	8 25	198 78
1873.....	11 16	201 69	8 58	199 11
1874.....	12 00	202 53	9 33	199 86
1875.....	10 33	200 86	8 42	198 95
1876.....	12 50	203 03	10 16	200 69
1877.....	11 00	201 53	8 67	199 20
1878.....	11 16	201 69	9 92	200 45
1879.....	11 83	202 36	8 58	199 11
1880.....	11 67	202 20	8 75	199 28
1881.....	10 50	201 03	8 58	199 11
1882.....	11 58	202 11	9 25	199 78
1883.....	12 08	202 61	9 33	199 86
1884.....	12 25	202 78	9 67	200 20
1885.....	11 75	202 28	10 00	200 53
1886.....	12 92	203 45	9 16	199 69
1887.....	12 00	202 53	9 25	199 78
1888.....	10 50	201 03	8 33	198 86
1889.....	11 33	201 86	8 16	198 69
1890.....	12 16	202 69	10 16	200 69
1891.....	11 92	202 45	8 16	198 69
1892.....	10 83	201 36	8 83	199 36
1893.....	11 75	202 28	9 00	199 53
1894.....	10 92	201 45	8 50	199 03
1895.....	9 33	199 86	7 33	197 86
1896.....	9 92	200 45	7 67	198 20
1897.....	9 92	200 45	8 58	199 11
1898.....	10 00	200 53	8 08	198 61
1899.....	10 33	200 86	9 00	199 53
1900**.....				
1901.....	10 25	200 61	7 67	198 20
1902.....	10 33	200 69	8 33	198 86
1903.....	11 25	201 53	8 33	198 86
1904.....	18 00	202 11	15 75	199 86
1905.....	17 00	201 11	15 00	199 11
1906.....	16 33	200 44	15 16	199 27
1907.....	17 33	201 44	15 42	199 53
1908.....	18 50	202 61	15 33	199 44
1909.....	17 16	201 27	14 42	198 53

## REFERENCES.\*

	Page 128	Report for 1891
1849-1891 inclusive.....	" 126	" " 1892
1892.....	" 135	" " 1896
1893-1895 inclusive.....	" 134	" " 1896
1896 (maximum).....	" 160	" " 1897
(minimum).....	" 160	" " 1897
1897.....	" 231	" " 1899
1898-1899.....	" 231	" " 1899
1900 **.....		
1901-1902.....	" 192	" " 1902
1903.....	" 191	" " 1904
1904.....	" 190	" " 1905
1905 (maximum).....	" 190	" " 1905
(minimum).....	" 174	" " 1906
1906 (maximum).....	" 174	" " 1906
(minimum).....	" 156	" " 1907
1907.....	" 161	" " 1908
1908.....	" 266	" " 1909
1909 ***.....		

NOTE.—For period 1849-1903 add gage height to Elevation 190.53 to get surface elevation; thus, 10.58 feet gage height corresponds to 10.58 + 190.53 = Elev. 201.11. Similarly, for the period 1904-1909 add gage height to Elev. 184.11.

\*References refer to Volume and page of Annual Report of Department of Railways and Canals.

\*\*Record for 1900 not available at time table was compiled.

\*\*\*Record for 1909 obtained from Cornwall Canal Office.

## REPORT ON THE EFFECT IN CANADIAN WATERS OF A POWER-HOUSE BUILT IN THE SOUTH SAULT CHANNEL.

The effect, in Canadian waters, of a power-house at the foot of the South Sault channel will be almost nil, after the development is completed. During the construction period, however, while the South channel is obstructed by a coffer dam, all the South channel discharge will be diverted to the North channel, and this diversion will raise the level slightly in this latter channel.

The St. Lawrence is probably the best regulated large river in the world, and the variation of its discharge from the mean average is exceedingly small. The ratio of the mean flow to the extreme minimum is only 1.41, and the ratio of the mean flow to the extreme maximum is only 0.71. These ratios are unique and greatly simplify the case under consideration.

The average discharge of the St. Lawrence river is about 255,000 second-feet, at which stage about 48,500 second-feet, or 19 per cent of the total flow, passes through the South channel, and 81 per cent. flows through the North channel. When the total river discharge is less than 255,000 second-feet, proportional discharge in the South channel falls slightly below 19 per cent, and *vice versa*.

As long as the discharge through the proposed South Sault power-house is the same as would have occurred under present natural conditions, for the varying river stages, it will have no appreciable effect upon the levels or flow in the North channel. Any considerable change in the proportional discharge through the South Sault will affect the levels and discharge in the North channel to some extent, and the effect of such change on navigation is to be determined.

The minimum depth on the sill of lock 21 of the Cornwall canal is 14 feet and it is axiomatic that any greater depth, within reasonable limits, is beneficial to navigation, and it is also true that a depth less than 14 feet should be prevented if possible. This applies only to the navigation season, May to November, inclusive. During the winter season, December to April, inclusive, the depth of the sill at lock 21 is immaterial, so long as sufficient water is available for supplying the power plants along the Cornwall canal.

In determining the effect of the South Sault power-house, the following items must be considered:—

I. Present conditions along River St. Lawrence:

- (a) Winter season.
- (b) Navigation season.

II. Conditions during construction:

- (a) Winter season.
- (b) Navigation season.

III. Permanent future conditions:

- (a) Winter season.
  - 1. Power-house not in operation.
  - 2. Power-house in operation.
- (b) Navigation season.
  - 1. Power-house not in operation.
  - 2. Power-house in operation.

IV. Ice conditions in general:

“Winter season” means December to April, inclusive.

“Navigation season” means May to November, inclusive.

This list comprises the possible combinations and the resulting conditions will be considered seriatim.

I. Present conditions along River St. Lawrence:

- (a) Winter season—

Every winter the South Sault channel becomes so badly congested by ice jams that the entire flow of water, practically speaking, is shut off and all the water in the river flows through the North Sault channel. The only exception to this occurs when these ice jams in the South channel are prevented by the St. Lawrence River Power Company, and, in such cases, the discharge through the South Sault channel approximates the normal discharge, or is practically 19 per cent of the total discharge of the St. Lawrence.



The formation of these ice jams causes no damage to property, other than interfering with the supply of water to the Massena power canal, and the diversion of the water from the south to the north channel occurs without loss or damage of any kind whatsoever. So far as water supply for power along the Cornwall canal is concerned, it is absolutely immaterial whether the South Sault channel is entirely free and open or entirely dammed by ice jams.

(b) Navigation season—

The ice jams in the south channel pass away about April 1st, and, from this date until they form again, about January 1st, the South Sault channel passes approximately 19 per cent of the total river discharge. The mean discharge of the river at this point is about 255,000 second feet; at this stage the depth on the sill at lock 21 in the Cornwall canal is about 16.40 feet, or 2.40 feet more than the minimum of 14 feet depth in the St. Lawrence canals. The discharge is about 182,000 second-feet when the depth on the sill of lock 21 is 14.0 feet. For the period 1849 to 1897, inclusive, the least depth on the sill of the new lock 21 (had this lock been in existence during the entire period) would have been 13.75 feet, at which stage the South Sault channel discharged somewhat less than 19 per cent of the total river flow. Likewise, the greatest depth on the sill at lock 21 would have been 19.34 feet, and the south channel passed somewhat more than 19 per cent of the total river flow. The exact variation from 19 per cent is not known, but it is conservative to say that the difference is not great in either direction. The effect of this difference is unimportant, on account of the small ratio of the difference to the total discharge and the large increment of discharge per foot of increase of river surface elevation at lock 21.

## II. Conditions during construction:

(a) Winter season—

During the construction of the South Sault power-house, a temporary coffer dam will be built across the South channel, a short distance below the entrance to the Massena canal. This coffer-dam will divert to the north channel, all of the water that would otherwise flow through the south channel. During the winter season this will practically reproduce the conditions that have occurred almost annually from times prehistoric, when the south channel has been dammed by ice jams and the entire river has flowed in the north channel.

As previously stated, such conditions cause no damage whatsoever to property, and it follows that the construction of a coffer dam across the South channel will cause no material change in the usual North channel winter conditions, either as regards river levels or volume of water.

(b) Navigation season—

The diversion to the North channel, of all the water that now flows through the South channel, will raise the level at lock 21 to a height that corresponds to a river stage that is about 19 per cent. greater than occurs under existing conditions.

Thus, with the South channel coffer dammed and a mean river discharge of 250,000 second-feet, the level at lock 21 will be the same as

would occur, under existing conditions, with a total river discharge of 1.19 x 250,000, or about 297,500 second-feet. The gauge at lock 21 reads 16.25 feet for a mean discharge of 250,000 second-feet, under present conditions, and it will read 17.70 feet at the same stage, with a coffer dam across the South Sault channel. The difference is only about 1 foot 5 inches, a negligible increase, and yet one that will assist boats to a slight degree in leaving and entering the lock.

Sheet 3 shows graphically the highest and the lowest water on the upper sill of lock 21 for the navigation season, May to November inclusive, and from 1849 to 1909 inclusive. This record covers a period of 60 consecutive years and it is safe to assume that it shows practically the extreme that will occur in the future. The data on sheets 2 and 3—enable one to predict the effect, at lock 21, of a coffer dam across the South channel for all river stages.

The extreme daily minimum depth on the upper sill of lock 21 occurred in 1895, when the gauge reading was 13.75 feet, (=7.33 feet, old lock datum) and the discharge was 175,000 second feet. Had there been a coffer dam across the South channel, this minimum depth would have been increased to 15.0 feet.

The maximum daily depth occurred in 1862 and 1886, and was 19.34 feet, (=12.92 feet, old lock datum) with a discharge of 358,000 second-feet. The South channel coffer dam would have raised the level to 21.0 feet on the sill of lock 21, or a rise of 1 foot 8 inches higher than actually occurred. Since the Chicago Drainage canal is diverting from the St. Lawrence watershed about 10,000 second-feet, thereby actually lowering the river level at lock 21 about 0.2 foot at the maximum stage, the estimates are conservative.

The above computations are based upon Government data.

### III. Permanent Future Conditions.

#### (a) 1. Winter season—Power-House not in operation:

Not reproduced.

After the South Sault power-house is built, and as long as it is not in operation, the conditions in the North channel will be practically the same as have obtained in the past almost every winter, when ice jams in the South channel have diverted all of the water to the North channel as described in paragraph I (a), ante.

#### (a) 2. Winter season—Power-House in operation:

When the power-house is in operation the water will merely be passed through the turbines instead of flowing freely down the South channel as it does when, occasionally, ice jams do not obstruct and dam this channel, or the channel is kept free and open by the St. Lawrence River Power Company as was done in the winters of 1905, 1906 and 1909.

Such power-house operation will therefore only produce effects in the North channel that have happened in the past and will happen in the future with the South channel in its natural condition. The proposed power-house will, therefore, not alter present winter conditions to any appreciable extent.

#### (b) 1. Navigation season—Power-House not in operation:

Adjacent to the proposed power-house will be built a set of large gates capable of discharging upwards of 60,000 second-feet. The power-house

will only be shut down at infrequent intervals and any part of the water that would otherwise flow through the South channel can be diverted, as desired, to the North channel, or the entire volume of water that would flow through the South channel, in its natural condition, can there be discharged under the future conditions.

It is thus evident that as long as the power-house is not in operation the proposed development in the south channel will, in effect, provide a huge valve to divert the South Sault channel flow to the north, or pass it through the south channel, or divide it between the two as may be desired.

(b) 2. Navigation season—Power-House in operation—

During the navigation season, when the proposed power-house is in operation, the water that otherwise would have passed through the south channel in its natural state, will be discharged through the turbines for generating electrical power. Any excess water not used for power may either be diverted to the north channel or it may be passed through the sluice gates at the power-house.

The construction and operation of a power-house in the south channel will cause no material change in the volume or height of the water in the main channel north of Long Sault island, which channel is the International channel.

Finally, the operation of the proposed South Sault power-house will not affect, to any appreciable extent, the amount of water east of Long Sault island, nor will it affect, in the slightest degree, the amount of water in the river east of Barnhart island.

IV. Ice conditions in general:

It is well known that the South Sault channel has often been dammed by ice jams at the same time that the Farran's Point channel has been similarly obstructed, so that all of the ice in the river passed through the Big Sny and North channels. This occurred notably in the years 1887, 1905 and 1907. No property damage whatsoever was occasioned in the channel north of Long Sault island during such congestions. It is also an historical fact that not since the year 1795 has there been any ice congestion in the North Sault channel, and there has probably not been an ice jam in this channel for a very much longer period of time.

As previously stated, the South Sault power-house will cause winter conditions in the North channel practically the same as those caused by an ice jam in the South channel at present, but with this exception: after the power-house is built it will be desirable from an operating standpoint to keep the Farran's Point channel free from ice jams, so as to reduce the amount of ice that would otherwise float past the South channel inlet in entering the Big Sny. Past experience in fighting ice in the South channel shows that this can be done, and if there is no ice jam in the Farran's Point channel, an ice-bridge west of Croil island is almost, if not quite, an impossible occurrence, and to this extent, an ice flood at Morrisburg will be indirectly prevented, by the owners of the South Sault power-house keeping free from congestion Farran's Point channel.



## SUMMARY.

## UNDER EXISTING CONDITIONS.

In winter, all of the water in the river flows through the North channel, almost every year, and no damage results.

In summer, about 19 per cent of the flow passes through the South channel and 81 per cent through the North channel.

## DURING THE CONSTRUCTION PERIOD.

In winter, the coffer dam across the South channel will practically reproduce existing winter conditions in the North channel and no damage will result.

In summer, the South Sault coffer dam will raise the level in the North channel at lock 21 from a minimum of 1 foot 3 inches to a maximum of 1 foot 8 inches higher than would occur under the natural existing conditions in the South channel.

## AFTER THE POWER-HOUSE IS BUILT.

In winter, with the power-house not in operation, the conditions in the North channel will be practically the same as have obtained almost every year in the past under existing natural conditions in the South channel.

With the power-house in operation, the conditions in the North channel will be the same as have obtained in the past when the South channel was not obstructed by ice jams.

In summer, with the power-house not in operation, the flow of water in the South channel may be passed through the sluice gates adjoining the power-house, thus not affecting the amount of water or the level in the North channel appreciably, or the entire flow may, if desired to assist navigation, be diverted to the North channel.

In the summer, with the power-house in operation, the water that would have passed through the South channel in its natural existing condition will all be discharged through the turbines, or partly through the turbines and partly through the sluice gates, or, if desired, for the purpose of assisting navigation, the sluice gates may be closed and the water not required for power will automatically be diverted to the North channel.

The operation of a power-house in the South Sault channel will not interfere with, or alter the amount of water or change the river levels east of Long Sault island.

## ICE CONDITIONS IN GENERAL.

Ice jams will be prevented in the Farran's Point channel and this will make the occasional ice floods at Morrisburg almost, if not quite, impossible.

LONG SAULT DEVELOPMENT COMPANY,

J. W. RICKEY,

*Chief Engineer.*

MASSENA, N.Y., September 29, 1910.

# DESCRIPTION OF THE WORKS PROPOSED BY ST. LAWRENCE POWER COMPANY, LIMITED, AND LONG SAULT DEVELOPMENT COMPANY, IN THE ST. LAWRENCE RIVER NEAR BARNHART ISLAND.

## PRELIMINARY.

The St. Lawrence Power Company, Limited, owns the power development at the foot of Sheek Island near Mille Roches, Ontario. It takes water from the Cornwall canal on the north side of Sheek Island and furnishes electric power and lights for the Cornwall canal and for Cornwall, Moulinette, Mille Roches and Wales.

The fall in the St. Lawrence river adjacent to the plant of the St. Lawrence Power Company, Limited, would theoretically, furnish a substantial amount of power. The present owners of this Company secured possession believing that this theoretical power could be developed at a reasonable cost, so as to materially increase the capacity of the existing plant. Investigation has shown that without the cooperation of the riparian owners on the opposite American shore, the St. Lawrence Power Company, Limited, can develop this power only to a very slight extent.

The capacity of the existing plant is limited to about 3000 continuous horse power and 2300 intermittent horse power available only a portion of the year. This continuous power could perhaps be increased to 6000 horse power, but this is the maximum amount that can be commercially developed entirely in Canada, and without the cooperation of the American interests. There is no other suitable site, adjacent to the Long Sault, that the St. Lawrence Power Company, Limited, could use for independently developing additional power.

The Long Sault Development Company, a New York state corporation, is empowered by its charter to construct dams, power houses, locks and works appurtenant thereto in the St. Lawrence river, so far as these works will be in American territory, and is therefore in a position to utilize the fall in the St. Lawrence river above mentioned.

By cooperation in developing the power of the Long Sault, these companies will be able to supply in the adjacent territory a large amount of power, and only by such cooperation can the full potentiality of the river be made available. Such development is in conformity with the fundamental principles of the conversion of natural resources. A general outline of the plan is as follows:—

## MAP SHOWING GENERAL LOCATION OF PROPOSED WORKS.

The map accompanying this description shows Long Sault, Sheek and Barnhart islands, the Cornwall canal, and the location of the international boundary with respect to the main channel on the St. Lawrence river. This main channel is in international waters on the north side of Long Sault island; but, a short distance below the rapids which are principally between Long Sault and Sheek Islands, it lies south of Barnhart Island and entirely within American territory. About 95 per cent of the volume of water in the St. Lawrence river flows in this main channel south of Barnhart Island; the other 5 per cent flows through the international channel between Barnhart and Sheek Islands. The location of the proposed dams, power houses, canals and new lock is also shown.

## DAMS AND CONTROLLING WORKS.

A dam, for convenience called the "Upper Dam," is proposed between the western end of Barnhart Island and the eastern end of Long Sault Island; at each end of this dam next to the shores, there will be located a number of large sluice gates, the combined discharge of which will be about 100,000 second feet, or 40 per cent of the average flow of water in the river. Another dam, called the "Lower Dam" is proposed between the easterly end of Barnhart Island and the Canadian shore; it will lie on both sides of the international boundary. It is proposed to construct both dams of solid concrete masonry and of the gravity type.

In addition to the sluice gates at the Upper Dam there will be constructed at each of the power houses a number of large sluice gates to control the water level above the dams. These gates will be from 35 to 50 feet wide with about 15 feet of water on the sills; they will be so constructed that they can be operated throughout the entire year:

## POWER HOUSE AND LOCK.

At the north-easterly end of the Lower Dam the St. Lawrence Power Company, Limited, proposes to construct a large power house, between the dam and the Canadian shore near lock 20. This power house will be entirely in Canadian territory, and will be large enough to utilize all of the water that will be made available at this point by the construction of the dams.

The Long Sault Development Company proposes to construct a power house and lock across the South Sault channel between the foot of Long Sault Island and the main shore. The use of this lock will save approximately  $4\frac{1}{2}$  hours time on each round trip of the boats which now use the Cornwall canal.

At the eastern end of Barnhart Island it is proposed to construct one, or possibly two, power houses, and to excavate a head race leading from the forebay immediately above the Lower Dam to these power houses.

## MISCELLANEOUS CONSTRUCTION.

The width of Little River channel will be increased to about 1000 feet to provide a straight, wide and deep channel for conveying water to the power houses near the Lower Dam.

Earthen dikes will be constructed on the south side of the Cornwall canal, between locks 20 and 21, as may be required.

All changes to locks 20 and 21 made necessary by the construction of the proposed dams will be made free of cost to the Government.

## GOVERNMENT APPROVAL AND INSPECTION.

It is proposed to have the Engineering Department of both the Canadian and United States Government approve the plans, and, if desired, inspect the construction of the works that are to be built in their respective countries.



## CORNWALL CANAL CONDITIONS.

The Cornwall canal is  $11\frac{1}{2}$  miles in length, of which over 5 miles are formed by earth embankments; between locks 20 and 21 there are over  $2\frac{1}{2}$  miles of these embankments which in places are subjected to over 35 feet head of water. When the proposed dams are built and the water in the river above them is raised to the proposed level, the present unbalanced pressure on the canal banks, between locks 20 and 21, will be practically eliminated, and all danger of a washout in this section of the canal will be removed. Below lock 20 the conditions will remain unchanged. The construction of the proposed works will reduce the present risk of a washout in the entire canal at least fifty per cent; this result could only be obtained by the expenditure of many hundred thousand dollars by the Canadian Government.

The break in the canal bank, near lock 18, which occurred June 23, 1908, blocked all navigation in the Cornwall canal for seventeen days. Had the South Sault lock been in operation at that time, no delay whatever would have been caused by this washout, since all boats could have used the South Sault lock pending the repairs to the canal bank.

## SCENIC BEAUTY OF THE RIVER TO BE PRESERVED.

The scenic beauty of the river above lock 21 will not be affected. Below the dams, the river scenery will remain practically unaltered. The only scenic change will be the replacement of the present rapids by long over-flow dams; the water will pass over the crests of these dams in two unbroken sheets with a combined length of one and one-half miles, and a height of approximately forty feet, nearly one-fourth that of Niagara Falls, a sight equal in grandeur to that of the Long Sault and one which is unique in all the world.

Under present conditions the Long Sault is seen by tourists during the short summer season of about four months, and then only for a very few minutes as they pass rapidly in a boat. Under the proposed conditions the scenery adjacent to the dams may be enjoyed by tourists throughout the year.

## EFFECT OF PROPOSED WORKS ON TRANSPORTATION COMPANIES AND THE GENERAL PUBLIC.

The Long Sault is navigated by a single line of passenger boats; these boats made a daily trip downstream during the summer tourist season, June to September, inclusive. No rafts or freight steamers use the main channel on the north side of the eastern end of Long Sault Island, and no boats whatever can go up this channel. At a public hearing in Montreal, November 6, 1907, objection was raised to the construction of the proposed dams on the ground that the obliteration of these rapids would greatly decrease the number of tourist passengers.

The construction of the proposed dams will afford the opportunity for tourists to pass through the highest lift masonry lock in the world and to see the two longest spillway dams that have ever been built, with water several feet deep passing over the crest and falling about forty feet; such attractions will more than offset a trip through the Long Sault, which is

generally conceded to be less picturesque and thrilling than the Coteau Rapids, the Cedars, the Split Rock, the Cascades and Lachine Rapids, which are successively passed between this point and Montreal.

Passenger steamers will meet a delay of only about 30 minutes by using the South Sault lock as compared to shooting the Long Sault. On the west bound trip they will have at least two hours time as compared to passage through the Cornwall canal, so that on a round trip they will save about one and a half hours time under the proposed conditions. Freight steamers will be able to save at least four and a half hours time on each round trip by using the South Sault lock.

The power from the proposed works will be used principally by factories and industries yet to be established within the radius of transmission of electricity from the power houses. Raw material will be delivered to the factories from distant sources of supply and the finished products will be sent to the world's markets; the construction of the proposed works will greatly increase the revenue of the boat and rail transportation companies.

New industries and factories, contingent upon the development of the Long Sault, will give employment to thousands of persons and in one way or another all communities using power from the proposed works, as well as the general public, will be substantially benefitted thereby.

#### CONTOUR SURVEYS ALONG THE RIVER.

The engineers of the two companies have completed accurate surveys of the entire river from the eastern end of Barnhart Island to Waddington, a distance of about 23 miles. These surveys show all the contours, at 2½ foot intervals, also the property lines on the islands and the main shores, to a point above Croil Island. Between this latter point and Waddington the contours and property lines were surveyed to elevation 215, sea level datum. From these maps can be determined all questions that will be involved when the river is raised to the proposed level.

The St. Lawrence Power Company, Limited, has acquired much land and many riparian rights that will be affected by the proposed changes, and negotiations are under way for securing the remainder.

The Long Sault Development Company, on the American side, has acquired practically all of Barnhart Island and the eastern half of Long Sault Island, together with riparian rights around the western end of the island, also nearly 2,000 acres of land on the main shore, extending from a point opposite the eastern end of Barnhart Island, upstream to the Massena canal, a distance of about 8 miles. Both companies are acquiring land on their respective sides of the river to elevation 215, sea level datum, which will be well above the future river level; they are also securing riparian rights along the streams that flow into the St. Lawrence river, where there is any possibility of riparian damage being caused.

#### IMPROVEMENT IN ICE CONDITIONS AT CORNWALL.

The greater part of the frazil ice in the section of the river above Cornwall is formed in the swift open stretches of the water above the Long Sault and in the rapids themselves. The construction of the proposed dams will reduce the velocity of the river above them; the Long

Sault will be entirely obliterated and there will be a great reduction in the amount of frazil ice that will be formed.

Under existing conditions the enormous masses of frazil ice that are formed in and above the rapids, pass down stream to the quiet water at the head of Lake St. Francis; here they form hanging dams on the under side of the sheet ice on the lake. Every winter these hangings dams create a flood of backwater that rises from 15 to 30 feet above the normal summer level of the water in the river, endangering the town of Cornwall. In the year 1887 the backwater extended as far as Fifth Street, so that practically two-thirds of the town was flooded.

The danger of winter flood and backwater at Cornwall will not be entirely removed by the proposed dams, but the danger arising from the annual ice jam will be very much lessened, a point of vital importance to the people of Cornwall.

#### IMPROVEMENT IN ICE CONDITIONS ABOVE THE DAMS.

In previous years, notably 1887 and 1905, large ice jams formed at critical points in the river channel opposite Farrans Point and also on the south side of Croil Island. The backwater caused by these jams extended up-stream as far as Morrisburg.

Careful surveys of the high water marks of the worst flood on record, that of February 1887, between Cornwall and Morrisburg, show conclusively the following:—

The main channel of the river, from the lower end of Croil Island to the upper end of Barnhart Island, never becomes congested with ice even when the backwater below the rapids is raised to practically the same level as that proposed above the dams. Below the Long Sault and above Croil Island the jams frequently block the entire channel, from shore to shore.

The floods at Morrisburg are caused principally by the ice jams in the vicinity of Weaver's Point. The following table shows the backwater rise, in February 1887, above the normal summer level, the river discharge being approximately 250,000 second feet in both cases.

Place in Main Channel.	Normal Surface (Sea level datum.)	Flood Level Feb., 1887.	Backwater Rise.
	El.	El.	Ft.
Opposite Lock 18., .....	156.4	185.4	29.0
Opposite eastern end Barnhart Island..	159.2	190.2	31.0
Opposite middle Barnhart Island .....	164.7	194.2	29.5
Opposite western end Barnhart Island.	172.9	194.2	21.3
At proposed Upper Dam site .....	182.0	200.0	18.0
Opposite entrance to Cornwall Canal...	200.1	204.1	4.0
One mile below western end of Long Sault Island .....	203.0	204.4	1.4
Opposite western end Long Sault Island	204.8	206.2	1.4
Opposite western end Croil Island .....	206.1	209.7	3.6
One mile east of Weavers Point.....	208.0	214.3	6.3
Opposite Weavers Point.....	208.3	224.7	16.4
Opposite Morrisburg.....	213.5	225.5	12.0

The ice jams above Long Sault Island are generally formed artificially by the inhabitants, and can be prevented. Those of natural formation can be broken up.



The construction of the proposed dams will improve ice conditions above them and materially lessen the risk of flood at Morrisburg.

#### SUMMARY.

##### *I. Advantages to the General Public.*

(a) The construction of these works will afford abundant, reliable and cheap power to all districts within the radius of transmission of electricity from the power houses.

(b) The furnishing of cheap power will create many new industries and will be of great advantage to those already established.

(c) The construction of the proposed dams and power houses will require the expenditure of many millions of dollars, which will be distributed among the transportation companies, manufacturers, tradesmen and workmen. It is impossible to estimate the amount which will be expended directly or indirectly consequent upon the utilization of this power, but the amount required for the construction of the factories, installation of transmission lines, etc., etc., will run into many more millions of dollars.

(d) The power from the entire development will be used almost exclusively for manufacturing purposes, and the products must be distributed by boat or rail; this will mean increased revenue to the transportation companies for all future time.

##### *II. Improvement of Navigation.*

(a) Navigation will be very much improved. The present practically impassable rapids will be eliminated and in their place will be a broad and safe stream. The velocity of the current in the Farrans Point and the Big Sny channels will be substantially lessened.

(b) The South Sault lock will duplicate the means now afforded by the Cornwall canal for navigation past the Long Sault and will postpone the time when the Cornwall canal must be enlarged at great expense to the Canadian Government.

(c) The duplication of navigation facilities past the Long Sault will insure shipping interests against delay due to failure or accident in either the Cornwall canal or the South Sault lock.

(d) The construction of these works will enable boats passing the Long Sault to make a round trip in approximately four and a half hours less time than at present.

(e) The South Sault lock will be operated seven days per week during the navigation season, and like the Cornwall canal will be toll free.

##### *III. Improvement in Ice Conditions.*

(a) Ice conditions below the dams will be much improved, thus reducing the danger from the annual ice gorges and floods at Cornwall.

(b) The river above the dams will be kept free from ice jams so that a repetition of the floods of 1887 and 1905 will not occur again.

##### *IV. Cornwall Canal Conditions.*

(a) The proposed development will be made, preserving the integrity and utility of the Cornwall canal.

(b) The proposed development is so planned that traffic in the Cornwall canal will not be affected by the development in any way whatsoever. The Cornwall canal will remain unchanged and will be open to traffic both during the construction period and forever thereafter.

(c) When the water above the dams is raised to the proposed level, all danger of a washout of canal banks between locks 20 and 21 will be entirely and permanently removed.

Respectfully submitted,

ST. LAWRENCE POWER COMPANY, LIMITED,  
LONG SAULT DEVELOPMENT COMPANY,

J. W. RICKEY,  
*Chief Engineer.*

# DATA ON ICE JAMS IN ST. LAWRENCE RIVER BETWEEN MORRISBURG AND CORNWALL. BASED ON SURVEYS MADE TO LOCATE AND DETERMINE ELEVATION OF FLOOD MARKS ALONG THE RIVER.

## DATES OF UNUSUAL ICE JAMS AND FLOODS.

I. The only floods caused by ice jams between Croil Island and Morrisburg were those of 1840, 1879, 1887, 1895, 1898, 1901 and 1905. The flood of 1887 was the worst and that of 1905 the next.

## SURVEYS OF ICE FLOODS.

II. In 1904 John R. Freeman directed a survey of ice conditions from Cornwall to the upper end of Long Sault Island. In 1907, J. W. Rickey directed a similar survey, from the point where Mr. Freeman left off, to Morrisburg. The results of these surveys are shown on drawings C-8-X and A-84-M. The following statements were made by the persons mentioned, to C. W. Judson, who executed this latter survey:—

Benj. Nichols, U. S. Customs Officer at Louisville Landing, states that until recently nearly all ice gorges have been caused by bays being thrown from Croil Id. to the north shore near Farran's Pt. This has been done after a bridge has formed on the south side of Croil Id., either by the bay between McLoud's Pt. and Duval's Pt. swinging from natural causes, or having been swung by people living near by.

Twenty or twenty-five years ago a state law was enacted making it a misdemeanor to swing an ice bridge at above points, and there is now a special deputy appointed by the sheriff of St. Lawrence Co. each winter to prevent the swinging of an ice bridge.

Mr. Nichols says that these deputies are chosen from people residing along the river near these points, to whom a bridge would give certain advantages, and, as bridges are always swung during the night, the deputies have never yet been known to prevent their being thrown across.

Mr. Cook, Collector of Canadian Customs at Aultsville, Ontario, says that nine ice jams out of ten are formed by a bridge between the upper part of Croil Island and the north shore, and that nearly all of these are caused by bays being thrown from the Croil Island side.

Mr. Cook states that he knows the bridge of 1887, which caused the highest water known between Aultsville and Morrisburg, was thrown by residents along the river near above point; and that nearly all, if not all, of the smaller ice jams originated in a similar way.

Charles Whittaker, Lockmaster at Morrisburg, Ontario, states that he has lived at Morrisburg nearly all his life, and that as a rule nearly all ice jams have been caused by throwing bays from Croil Island to the main shore.

There may have been exceptions to the above, but none to Mr. Whittaker's knowledge.

Charles Stata, Lockmaster at Farran's Point, Ontario, says that no ice bridges have been thrown across at this point for fifteen years. The bridges of 1887 and 1905 were caused by Brown's bay swinging out and catching on point just below.

Ice makes out from both sides here, so that the main channel seems no wider than a good-sized creek, and bays coming down from above very often hold for a time.

Brown's bay usually goes out as often as every week during the winter. This is caused by the rise and fall of the water due to variable winds. (The last above statement is not corroborated. C.W.J.)

If weather is very cold, ice forms in bay of sufficient thickness to hold and form bridge when it swings against point.

There was very little trouble here until the canal was enlarged. This has so changed the current that ice at point below bay, just east of Farran's Point, makes out much farther than formerly, thus causing a bridge to form.

A bridge is often caused by Whalen's bay, also bay just below Sturgeon Shoal, swinging and lodging at head of Farran's Pt. canal. This also has only happened since canal has been enlarged.

Jerry Wilson, three and one-half miles west of Louisville Landing, states that his grandfather, Samuel Warner, moved here about 1790 to 1795. Samuel Warner told Mr. Wilson that the only ice-bridge between the time he moved here and 1879 was a temporary one in 1840.

George W. Lawrence, just west of Jerry Wilsons, says that there were, according to a written record which he has kept, ice jams in the St. Lawrence River in the winters of 1887, 1895, 1898, 1901 and 1905.

James Bradford states that his grandfather moved to Louisville Ldg. about 1805 and that he had heard his grandfather repeatedly say that the first serious ice jam or bridge occurred in 1879; that prior to this date the ice did not "take" opposite Croil Island and above it.



The authors of the above statements have all lived along the river for many years and are pre-eminently qualified to give an opinion in the matter.

All floods that endanger Morrisburg are caused by the initial ice bridge "taking" at Croil Island and from the above statements it appears:

(a) That nearly all ice bridges between Croil Island and the main shore were *artificially* formed by the riverside inhabitants.

(b) That the 1887 flood, the worst on record, was started artificially.

(c) That changes in the Farran's Point Canal have increased the chances of ice jams forming.

#### DISCHARGE OF RIVER IN FEBRUARY, 1887.

III. The mean monthly discharge of the St. Lawrence in February, 1887, was 250,500 second feet (vide Report U. S. Engineers, 1903, page 2877). This February discharge has only been exceeded three times for the period 1860-1906 inclusive, namely, 1865, 257,800 second feet; 1870, 262,000 second feet; 1886, 268,000 second feet. The 1887 conditions present about as severe conditions as may be expected.

#### PROFILE OF RIVER.

IV. The upper curve on Drawing E-146-M shows the profile of the river surface from Morrisburg to Cornwall, at the crest of the flood in February, 1887; the lower curve shows the profile for open channel conditions, with a river discharge of 255,000 second feet which is about two percent more than the discharge in February, 1887.

The upper curve on Drawing E-169-M shows the profile of the river surface from Morrisburg to the head of Long Sault Island, at the crest of the flood in February, 1905. The lower curve shows the river profile for 255,000 second feet discharge open channel conditions. The ice flood is not shown east of Long Sault Island on this map because the ice flood survey between Cornwall and the head of Long Sault Island was made in 1904.

#### ICE CONDITIONS IN RIVER, FEBRUARY, 1887.

V. In February, 1887, there were two ice jams in the river stretch above mentioned. The lower jam was caused by the annual congestion of frazil ice in Lake St. Francis; the head of this jam was near the foot of the Long Sault and raised the water to elev. 200 at this point. At the foot of Barnhart Island the flood level was 30 feet above the normal, open channel level; this flood level was from 5 to 10 feet higher than the ordinary annual flood.

The upper jam extended from Croil Island to Bradford Point, 7 miles. It was started by swinging an ice bridge, (see para. II above). The river channel was blocked with ice as far as Weaver's Point but the water rose less than 4 feet above normal near the foot of the jam on the south side of Croil Island, while at Weaver's Point it rose only 6 feet above normal. Between Weaver's Point and Bradfords Point the channel was so badly congested that the ice acted almost as a dam, raising the water over 16

feet above normal at Bradfords Point. From Bradfords Point to Morrisburg the channel was open in the centre, with ice in the bays along the shore. At Morrisburg the rise above normal was about 12 feet.

The main river channel was open, except for border ice, from the foot of the upper jam at Croil Island to the foot of the Long Sault. The rapids were practically obliterated by the backwater from the lower jam. Although the flood level was from 18 to 20 feet above normal at the site of the proposed upper dam, or at elev. 200, the backwater rise at Lock 21 was less than 4 feet; and at the lower end of Croil Island, the backwater rise was less than 2 feet.

It is a matter of history that the main river channel north of Long Sault never becomes congested with ice even when the backwater, caused by Lake St. Francis ice jam, obliterates the rapids, thereby creating conditions essentially the same as will be created by the proposed dams.

The South Sault Channel was so badly congested that very little water was discharged through it. Practically all of the discharge of the river, about 250,000 second feet, passed in the main channel north of Long Sault Island, and south of Barnhart Island.

Little River channel was badly congested and discharged very little water.

The extent of these jams is shown on Drawing E-146-M.

#### CONCLUSIONS FROM ABOVE FACTS.

VI. From the above it follows that the ice jams in Lake St. Francis do not cause any serious backwater rise in the open channel of the main river north of Long Sault Island, even when the surface is raised to elev. 200 at the upper dam site.

The flood at Morrisburg is caused primarily by the initial ice bridges "taking" between Croil Island and the main shores. These ice bridges are generally of artificial formation and if broken up soon after they "take," a jam will not be formed.

If no ice jam forms above Croil Island, a winter flood at Morrisburg is most improbable, if not impossible; this statement is based on the river conditions as they have existed for more than 100 years past.

#### PREVENTION OF ICE JAMS IN THE SOUTH SAULT CHANNEL.

VII. The St. Lawrence River Power Company kept the South Sault channel open during the winters of 1903-1906 inclusive, even when north-west winds caused practically all of the ice in the entire river to pass down this channel. Before and after the above dates no attempt was made to keep this channel open and every winter it was badly congested with ice jams. This shows conclusively that it is practicable to keep the river channels open provided the work is undertaken with properly equipped crews. In like manner it will be possible to keep open the main river channel on each side of Croil Island after the proposed dams are built, thereby removing all possibility of ice floods in Morrisburg for all future time.

#### EFFECT OF PROPOSED DAMS ON RIVER CONDITIONS.

VIII. If the proposed dams had existed during the 1887 flood, and the river had been maintained at the February, 1887, level (viz. elev. 200) at

the upper dam site, the up-river condition would have been unchanged. The open river would have extended to a point opposite Croil Island and the surface elevation would have been the same as it was during the flood.

If the upper jam had been allowed to form, under the above conditions, and if it had been allowed to increase, the resulting flood would have been practically the same as existed in 1887. In brief, the existence of the proposed dams during the 1887 flood would not have altered conditions above them to an appreciable extent. The experience of four consecutive years in breaking up and preventing ice jams in the South Sault channel shows that similar methods, employed in breaking the incipient jams at Croil Island, would have prevented the 1887, 1905 and other floods.

#### THE FEBRUARY, 1905, FLOOD.

IX. The flood of February, 1905, was caused in a manner much like that of 1887. The water did not rise as high as in 1887, but the upper ice jam extended from Croil Island to Morrisburg and the jam was so compact that teams crossed the river on the ice at many points. The profile of the 1905 flood is shown on drawing E-169-M.

The damage done by these floods is small. The riverside inhabitants know about them and do not build structures near the river. The greatest damage occurs in Morrisburg.

Where the river roads, on both sides of the river, cross the streams that flow into the St. Lawrence, the bridges are but a few feet above the normal water level, and when the river is in flood stage these bridges are impassible; the farmers in such cases are compelled to go back to the next road. No loss of life has ever occurred due to the floods above mentioned.

#### COMPARISON OF PRESENT AND FUTURE CONDITIONS.

X. Under existing conditions no one is interested in breaking up or even preventing ice jams opposite and above Croil Island, and the repetition of the 1887 and 1905 floods at Morrisburg may occur any winter. It is not at all improbable that a flood whose effects will be far more disastrous than that of 1887 may occur.

When the proposed dams are built it will be of great importance to the power companies from an operating standpoint, to keep the river free from congestion. Crews of men will be stationed at the critical points and the river will be patrolled and kept free from ice jams just as the South Sault Channel has been maintained free and open by the St. Lawrence River Power Company.

The construction of the proposed dams will not increase the danger of flood at Morrisburg but the operation of the power houses, etc., will call for the prevention of ice jams and in this way the proposed works will reduce to a minimum the risk of flood not only at Morrisburg, but along the river front from Morrisburg to Farran's Point.

Respectfully submitted,

J. W. RICKEY,  
*Chief Engineer.*



## DOMINION OF CANADA EXHIBIT B.

*Lord Ashburton to Mr. Webster.*

WASHINGTON, July 16, 1842.

SIR,—There is a further question of disputed boundary between Great Britain and the United States, called the northwest boundary, about which we have had some conferences; and I now proceed to state the terms which I am ready to agree to for the settlement of this difference. As the principal object in dispute is to be given up by Great Britain, I trust, Sir, that you will here again recognize the spirit of friendly conciliation which has guided my government in disposing of these questions.

I have already sufficiently discussed with you the boundaries between Her Majesty's Provinces and the United States, from the monument at the head of the River St. Croix to the monument on the River St. Lawrence, near the village of St. Regis.

The commissioners under the sixth article of the treaty of Ghent succeeded in continuing this boundary from St. Regis through the St. Lawrence and the great northern lakes, up to a point in the channel between Lake Huron and Lake Superior.

A further continuation of this boundary, from this point through Lake Superior to the Lake of the Woods, was confided to the same commissioners under the seventh article of the treaty of Ghent, but they were, unfortunately, unable to agree, and have consequently left this portion of the boundary undetermined. Its final settlement has been much desired by both governments, and urgently pressed by communications from Mr. Secretary Forsyth to Mr. Fox in 1839 and 1840.

What I have now to propose cannot, I feel assured, be otherwise than satisfactory for this purpose.

The commissioners who failed in their endeavours to make this settlement differed on two points:—

*First.* As to the appropriation of an island called St. George's Island, lying in the water communication between Lake Huron and Lake Superior; and,

*Secondly.* As to the boundary through the water communications from Lake Superior to the Lake of the Woods.

The first point I am ready to give up to you, and you are no doubt aware that it is the only object of any real value in this controversy. The island of St. George is reported to contain twenty-five thousand nine hundred and twenty acres of very fertile land; but, the other things connected with these boundaries being satisfactorily arranged, a line shall be drawn so as to throw this island within the limits of the United States.

In considering the second point, it really appears of little importance to either party how the line be determined through the wild country between Lake Superior and the Lake of the Woods, but it is important that some line should be fixed and known.

The American commissioner asked for the line from Lake Superior up the river Kamanastiguia to the lake called Dog Lake, which he supposed to be the same as that called Long Lake, in the treaties, thence through

Sturgeon Lake to the Lac la Pluie, to that point where the two lines assumed by the commissioners again meet.

The British commissioner, on the other hand, contended for a line from the southwestern extremity, at a point called Le Fond du Lac, to the middle of the mouth of the estuary, or lake, of St. Louis River, thence up that river through Vermilion River to Lac la Pluie.

Attempts were made to compromise these differences, but they failed, apparently more from neither party being willing to give up the island of St. George, than from much importance being attached to any other part of the case.

Upon the line from Lake Superior to the Lake of the Woods, both commissioners agreed to abandon their respective claims, and to adopt a middle course, for which the American commissioner admitted that there was some ground of preference. This was from Pigeon River, a point between Kamanastiguia and Le Fond du Lac; and although there were differences as to the precise point near the mouth of Pigeon River where the line should begin, neither party seemed to have attached much importance to this part of the subject.

I would propose that the line be taken from a point about six miles south of Pigeon River, where the Grand Portage commences on the lake, and continued along the line of said portage alternately by land and water, to Lac la Pluie, the existing route by land and water remaining common to both parties. This line has the advantage of being known, and attended with no doubt or uncertainty in running it.

In making the important concession on this boundary of the island of St. George, I must attach a condition to it of accommodation, which experience has proved to be necessary in the navigation of the great waters which bound the two countries; an accommodation which can, I apprehend, be no possible inconvenience to either. This was asked by the British commissioner in the course of the attempts of compromise above alluded to; but nothing was done, because he was not then prepared, as I am now, to yield the property and sovereignty of St. George's Island.

The first of these two cases is at the head of Lake St. Clair, where the river of that name empties into it from Lake Huron. It is represented that the channel bordering the United States coast in this part is not only the best for navigation, but, with some winds, is the only serviceable passage. I do not know that, under such circumstances, the passage of a British vessel would be refused; but, on a final settlement of boundaries, it is desirable to stipulate for what the commissioners would probably have settled, had the facts been known to them.

The other case, of nearly the same description, occurs on the St. Lawrence, some miles above the boundary at St. Regis. In distributing the islands of the river by the commissioners, Barnhart's Island and the Long Sault Islands were assigned to America. This part of the river has very formidable rapids, and the only safe passage is on the southern or American side, between those islands and the mainland. We want a clause in our present treaty to say that, for a short distance, namely, from the upper end of Upper Long Sault Island to the lower end of Barnhart's Island, the several channels of the river shall be used in common by the boatmen of the two countries.

I am not aware that these very reasonable demands are likely to meet with any objection, especially where the United States will have surrendered to them all that is essential in the boundary I have now to propose to you.

I beg you will be assured, Sir, of my unfeigned and distinguished consideration.

ASHBURTON.<sup>6</sup>

HON. DANIEL WEBSTER, &c., &c., &c.

*Mr. Webster to Lord Ashburton.*

DEPARTMENT OF STATE,

WASHINGTON, July 27, 1842.

MY LORD,—I have now to propose to your Lordship a line of division embracing the disputed portions of the boundary between the United States and the British Provinces of New Brunswick and the Canadas, with its considerations and equivalents, such as conforms, I believe, in substance, to the result of the many conferences and discussions which have taken place between us.

The acknowledged territories of the United States and England join upon each other from the Atlantic Ocean to the eastern foot of the Rocky Mountains, a distance of more than three thousand miles. From the ocean to the source of the St. Croix the line of division has been ascertained and fixed by agreement; from the source of the St. Croix to a point near St. Regis, on the River St. Lawrence, it may be considered as unsettled or controverted; from this last-mentioned point, along the St. Lawrence and through the lakes, it is settled, until it reaches the water communication between Lake Huron and Lake Superior. At this point the commissioners, under the seventh article of the treaty of Ghent, found a subject of disagreement which they could not overcome, in deciding up which branch or channel the line should proceed, till it should reach a point in the middle of St. Mary's River, about one mile above St. Georges or Sugar Island.

From the middle of the water communication between the two lakes, at the point last mentioned, the commissioners extended the line through the remaining part of that water communication, and across Lake Superior, to a point north of Ile Royale; but they could not agree in what direction the line should run from this last-mentioned point, nor where it should leave Lake Superior, nor how it should be extended to the Rainy Lake, or Lac la Pluie. From this last-mentioned lake they agreed on the line to the northwesternmost point of the Lake of the Woods, which they found to be in latitude forty-nine degrees twenty-three minutes fifty-five seconds. The line extends, according to existing treaties, due south from this point to the forty-ninth parallel of north latitude, and by that parallel to the Rocky Mountains.

Not being able to agree upon the whole line, the commissioners, under the seventh article, did not make any joint report to their respective governments. So far as they agreed on any part of the line, that part has been considered settled; but it may be well to give validity to these portions of the line by a treaty.



To complete the boundary line, therefore, and to remove all doubts and disputes, it is necessary for the two governments to come to an agreement on three points:—

1st. What shall be the line on the northeastern and northern limits of the United States, from the St. Croix to the St. Lawrence? This is by far the most important and difficult of the subjects, and involves the principal questions of equivalents and compensations.

2nd. What shall be the course of the boundary from the point where the commissioners, under the sixth article of the treaty of Ghent, terminated their labors, to wit, a point in the Neebish Channel, near Muddy Lake, in the water communication between Lake Huron and Lake Superior, to a point in the middle of St. Mary's River, one mile above Sugar Island? This question is important, as it involves the ownership of that island.

3rd. What shall be the line from the point north of Ile Royale, in Lake Superior, to which the commissioners of the two governments arrived by agreement to the Rainy Lake? And also to confirm those parts of the line to which the said commissioners agreed.

Besides agreeing upon the line of division through which these controverted portions of the boundary pass, you have suggested also, as the proposed settlement proceeds upon the ground of compromise and equivalents, that boats belonging to Her Majesty's subjects may pass the falls of the Long Sault, in the St. Lawrence, on either side of the Long Sault Islands, and that the passage between the islands lying at or near the junction of the River St. Clair with the lake of that name shall be severally free and open to the vessels of both countries. There appears no reasonable objection to what is requested in these particulars; and on the part of the United States it is desirable that their vessels, in proceeding from Lake Erie into the Detriot River, should have the privilege of passing between Bois Blanc, an island belonging to England, and the Canadian shore, the deeper and better channel being on that side.

The line then, now proposed to be agreed to may be thus described:—

Beginning at the monument at the source of the River St. Croix, as designated and agreed to by the commissioners under the fifth article of the treaty of 1794, between the governments of the United States and Great Britain; thence north, following the exploring line run and marked by the surveyors of the two governments in the years 1817 and 1818, under the fifth article of the treaty of Ghent, to its intersection with the River St. John, and to the middle of the channel thereof; thence up the middle of the main channel of the said River St. John to the mouth of the River St. Francis; thence up the middle of the channel of the said River St. Francis, and of the lakes through which it flows, to the outlet of the Lake Pohenagomook; thence southwesterly, in a straight line, to a point on the northwest branch of the River St. John, which point shall be ten miles distant from the main branch of the St. John, in a straight line, and in the nearest direction, but if the said point shall be found to be less than seven miles from the nearest point of the summit or crest of the highlands that divide those rivers which empty themselves into the River St. Lawrence from those which fall into the River St. John, then the said point shall be made to recede down the said river to a point seven miles, in a straight line, from the said summit or crest; thence, in a straight line, in a course about south eight degrees west, to the point where the

parallel of latitude of forty-six degrees twenty-five minutes north intersects the southwest branch of the St. John; thence southerly, by the said branch, to the source thereof in the highlands at the Metjarmette Portage; thence down along the said highlands which divide the waters which empty themselves into the River St. Lawrence from those which fall into the Atlantic Ocean, to the head of Hall's Stream; thence down the middle of said stream, till the line thus run intersects the old line of boundary surveyed and marked by Valentine and Collins, previously to the year 1774, as the forty-fifth degree of north latitude, and which has been known and understood to be the line of actual division between the States of New York and Vermont on one side, and the British Province of Canada on the other; and from said point of intersection, west, along the said dividing line, as heretofore known and understood, to the Iroquois or St. Lawrence River; and from the place where the joint commissioners terminated their labors under the sixth article of the treaty of Ghent, to wit, at a point in the Neebish Channel, near Muddy Lake, the line shall run into and along the ship channel between St. Joseph's and St. Tamney Islands, to the division of the channel at or near the head of St. Joseph's island; thence, turning eastwardly and northwardly, around the lower end of St. George's or Sugar Island, and following the middle of the channel which divides St. George's from St. Joseph's Island; thence up the east Neebish Channel nearest to St. George's Island, through the middle of Lake George; thence west of Jonas Island, into St. Mary's River, to a point in the middle of that river about one mile above St. George's or Sugar Island, so as to appropriate and assign the said island to the United States; thence, adopting the line traced on the maps by the commissioners, through the River St. Mary and Lake Superior, to a point north of Ile Royale, in said lake, one hundred yards to the north and east of Ile Chapeau, which last-mentioned island lies near the northeastern point of Ile Royale, where the line marked by the commissioners terminates; and from the last-mentioned point, southwesterly, through the middle of the sound, between Ile Royale and the northwestern mainland, to the mouth of Pigeon River, and up the said river to and through the north and South Fowl Lakes, to the lakes of the height of land between Lake Superior and the Lake of the Woods; thence along the water communication to Lake Saisaginaga, and through that lake; thence to and through Cypress Lake, Lac du Bois Blanc, Lac la Croix, Little Vermilion Lake, and Lake Namecan, and through the several smaller lakes, straits, or streams connecting the lakes here mentioned, to that point in Lac la Pluie, or Rainy Lake, at the Chaudière Falls, from which the Commissioners traced the line to the most northwestern point of the Lake of the Woods; thence along the said line, to the said most northwestern point, being in latitude forty-nine degrees twenty-three minutes fifty-five seconds north, and in longitude ninety-five degrees fourteen minutes thirty-eight seconds west from the observatory at Greenwich; thence, according to existing treaties, the line extends due south to its intersection with the forty-ninth parallel of north latitude, and along that parallel to the Rocky Mountains. It being understood that all the water communications, and all the usual portages, along the line from Lake Superior to the Lake of the Woods, and also Grand Portage from the shore of Lake Superior to the Pigeon River, as now actually used, shall be free and open to the use of the subjects and citizens of both countries.

It is desirable to follow the description and the exact line of the original treaty as far as practicable. There is reason to think that "Long Lake" mentioned in the treaty of 1783, meant merely the estuary of the Pigeon River, as no lake called "Long Lake," or any other water strictly conforming to the idea of a lake, is found in that quarter. This opinion is strengthened by the fact that the words of the treaty would seem to imply that the water intended as "Long Lake" was immediately joining Lake Superior. In one respect, an exact compliance with the words of the treaty is not practicable. There is no continuous water communication between Lake Superior and the Lake of the Woods, as the Lake of the Woods is known to discharge its waters, through the Red River of the North, into Hudson's Bay. The dividing height or ridge between the eastern sources of the tributaries of the Lake of the Woods and the western sources of Pigeon River appears, by authentic maps, to be distant about forty miles from the mouth of Pigeon River, on the shore of Lake Superior.

It is not improbable that, in the imperfection of knowledge which then existed of those remote countries, and perhaps misled by Mitchell's map, the negotiators of the treaty of 1783 supposed the Lake of the Woods to discharge its waters into Lake Superior. The broken and difficult nature of the water communication from Lake Superior to the Lake of the Woods renders numerous portages necessary; and it is right that these water communications and these portages should make a common highway, where necessary, for the use of the subjects and citizens of both governments.

When the proposed line shall be properly described in the treaty, the grant by England of the right to use the waters of the River St. John for the purpose of transporting to the mouth of that river all the timber and agricultural products raised in Maine on the waters of the St. John or any of its tributaries, without subjection to any discriminating toll, duty, or disability, is to be inserted. Provision should also be made for quieting and confirming the titles of all persons having claims to lands on either side of the line, whether such titles be perfect or inchoate only, and to the same extent in which they would have been confirmed by their respective governments had no change taken place. What has been agreed to, also, in respect to the common use of certain passages in the rivers and lakes, as already stated, must be made matter of regular stipulation.

Your Lordship is also informed, by the correspondence which formerly took place between the two governments, that there is a fund arising from the sale of timber, concerning which fund an understanding was had some years ago. It will be expedient to provide, by the treaty, that this arrangement shall be carried into effect.

A proper article will be necessary to provide for the creation of a commission to run and mark some parts of the line between Maine and the British Provinces.

These several objects appear to me to embrace all respecting the boundary line, and its equivalents, which the treaty needs to contain as matters of stipulation between the United States and England.

I have the honour to be, with high consideration, your Lordship's most obedient servant.

DANIEL WEBSTER.

Lord Ashburton, &c., &c., &c.



*Lord Ashburton to Mr. Webster.*

WASHINGTON, July 29, 1842.

SIR,—I have attentively considered the statements contained in the letter you did me the honour of addressing me on the 27th of this month, of the terms agreed to for the settlement of boundaries between Her Majesty's Provinces and the United States, being the final result of the many conferences we have had on this subject. This settlement appears substantially correct in all its parts, and we may now proceed, without further delay, to draw up the treaty. Several of the articles for this purpose are already prepared and agreed, and our most convenient course will be to take and consider them singly. I would beg leave to recommend, that, as we have excellent charts of the country through which the boundary which failed of being settled by the commissioners under the seventh article of the treaty of Ghent is partially marked, it would be advisable to make good the delineation on those charts, which would spare to both parties the unnecessary expense of new commissioners and a new survey. In this case, the only commission required would be to run the line on the boundary of Maine.

The stipulations for the greater facility of the navigation of the River St. Lawrence, and of two passages between the Upper Lakes, appear evidently desirable for general accommodation; and I cannot refuse the reciprocal claim made by you to render common the passage from Lake Erie into the Detroit River. This must be done by declaring the several passages in those parts free to both parties.

I should remark, also, that the free use of the navigation of the Long Sault passage on the St. Lawrence must be extended to below Barnhart's Island, for the purpose of clearing those rapids.

I beg leave to repeat to you, Sir, the assurance of my most distinguished consideration.

ASHBURTON.

Hon. Daniel Webster, &amp;c., &amp;c., &amp;c.

*Lord Ashburton to Mr. Webster.*

WASHINGTON, August 9, 1842.

SIR,—It appears desirable that some explanation between us should be recorded by correspondence respecting the fifth article of the treaty signed by us this day for the settlement of boundaries between Great Britain and the United States.

By that article of the treaty it is stipulated that certain payments shall be made by the Government of the United States to the states of Maine and Massachusetts. It has, of course, been understood that my negotiations have been with the Government of the United States, and the introduction of terms of agreement between the general government and the States would have been irregular and inadmissible, if it had not been deemed expedient to bring the whole of these transactions within the purview of the treaty. There may not be wanting analogous cases to justify this proceeding; but it seems proper that I should have confirmed

by you that my government incurs no responsibility for these engagements, of the precise nature and object of which I am uninformed, nor have I considered it necessary to make inquiry concerning them.

I beg, Sir, to renew to you the assurances of my high consideration.

ASHBURTON.

Hon. Daniel Webster, &c., &c., &c.

*Mr. Webster to Lord Ashburton.*

DEPARTMENT OF STATE,

WASHINGTON, August 9, 1842.

MY LORD,—I have the honor to acknowledge the receipt of your note of this day, with respect to the object and intention of the fifth article of the treaty. What you say in regard to that subject is quite correct. It purports to contain no stipulation on the part of Great Britain, nor is any responsibility supposed to be incurred by it on the part of your Government.

I renew, my Lord, the assurances of my distinguished consideration.

DANIEL WEBSTER.

LORD ASHBURTON, &c., &c., &c.

### DOMINION OF CANADA EXHIBIT C.

#### MESSAGE OF PRESIDENT TYLER TO THE SENATE OF THE UNITED STATES *Re* THE WEBSTER-ASHBURTON TREATY.

WASHINGTON, August 11, 1842.

*To the Senate of the United States:*

I have the satisfaction to communicate to the Senate the results of the negotiations recently had in this city with the British minister, special and extraordinary.

These results comprise—

First. A treaty to settle and define the boundaries between the territories of the United States and the possessions of Her Britannic Majesty in North America, for the suppression of the African slave trade, and the surrender of criminals fugitive from justice in certain cases.

Second. A correspondence on the subject of the interference of the colonial authorities of the British West Indies with American merchant vessels driven by stress of weather or carried by violence into the ports of those colonies.

Third. A correspondence upon the subject of the attack and destruction of the steamboat *Caroline*.

Fourth. A correspondence on the subject of impressment.

If this treaty shall receive the approbation of the Senate, it will terminate a difference respecting boundary which has long subsisted between the two Governments, has been the subject of several ineffectual attempts at settlement, and has sometimes led to great irritation, not without danger of disturbing the existing peace. Both the United States and the States more immediately concerned have entertained no doubt of the validity of the American title to all the territory which has been in dispute, but that title was controverted and the Government of the United States had agreed to make the dispute a subject of arbitration. One arbitration had been actually had, but had failed to settle the controversy, and it was found at the commencement of last year that a correspondence had been in progress between the two Governments for a joint commission, with an ultimate reference to an umpire or arbitrator with authority to make a final decision. That correspondence, however, had been retarded by various occurrences, and had come to no definite result when the special mission of Lord Ashburton was announced. This movement on the part of England afforded in the judgment of the Executive a favourable opportunity for making an attempt to settle this long-existing controversy by some agreement or treaty without further reference to arbitration.

It seemed entirely proper that if this purpose were entertained consultation should be had with the authorities of the States of Maine and Massachusetts. Letters, therefore, of which copies are herewith communicated, were addressed to the governors of those States, suggesting that commissioners should be appointed by each of them, respectively, to repair to this city and confer with the authorities of this Government on a line by agreement or compromise, with its equivalents and compensations. This suggestion was met by both States in a spirit of candor and patriotism and promptly complied with. Four commissioners on the part of Maine and three on the part of Massachusetts, all persons of distinction and high character, were duly appointed and commissioned and lost no time in presenting themselves at the seat of the Government of the United States. These commissioners have been in correspondence with this Government during the period of the discussions; have enjoyed its confidence and freest communications; have aided the general object with their counsel and advice, and in the end have unanimously signified their assent to the line proposed in the treaty.

Ordinarily it would be no easy task to reconcile and bring together such a variety of interests in a matter in itself difficult and perplexed, but the efforts of the Government in attempting to accomplish this desirable object have been seconded and sustained by a spirit of accommodation and conciliation on the part of the States concerned, to which much of the success of these efforts is to be ascribed.

Connected with the settlement of the line of the northeastern boundary, so far as it respects the States of Maine and Massachusetts, is the continuation of that line along the highlands to the northwesternmost head of Connecticut River. Which of the sources of that stream is entitled to this character has been matter of controversy and of some interest to the State of New Hampshire. The King of the Netherlands



decided the main branch to be the northwesternmost head of the Connecticut. This did not satisfy the claim of New Hampshire. The line agreed to in the present treaty follows the highlands to the head of Halls Stream and thence down that river, embracing the whole claim of New Hampshire and establishing her title to 100,000 acres of territory more than she would have had by the decision of the King of the Netherlands.

By the treaty of 1783 the line is to proceed down the Connecticut River to the forty-fifth degree of north latitude, and thence west by that parallel till it strikes the St. Lawrence. Recent examinations having ascertained that the line heretofore received as the true line of latitude between those points was erroneous, and that the correction of this error would not only leave on the British side a considerable tract of territory heretofore supposed to belong to the States of Vermont and New York, but also Rouses Point, the site of a military work of the United States, it has been regarded as an object of importance not only to establish the rights and jurisdiction of those States up to the line to which they have been considered to extend, but also to comprehend Rouses Point within the territory of the United States. The relinquishment by the British Government of all the territory south of the line heretofore considered to be the true line has been obtained, and the consideration for this relinquishment is to inure by the provisions of the treaty to the States of Maine and Massachusetts.

The line of boundary, then, from the source of the St. Croix to the St. Lawrence, so far as Maine and Massachusetts are concerned, is fixed by their own consent and for considerations satisfactory to them, the chief of these considerations being the privilege of transporting the lumber and agricultural products grown and raised in Maine on the waters of the St. Johns and its tributaries down that river to the ocean free from imposition or disability. The importance of this privilege, perpetual in its terms, to a country covered at present by pine forests of great value, and much of it capable hereafter of agricultural improvement, is not a matter upon which the opinion of intelligent men is likely to be divided.

So far as New Hampshire is concerned, the treaty secures all that she requires, and New York and Vermont are quieted to the extent of their claim and occupation. The difference which would be made in the northern boundary of these two States by correcting the parallel of latitude may be seen on Tanner's maps (1836), new atlas, maps. Nos. 6 and 9.

From the intersection of the forty-fifth degree of north latitude with the St. Lawrence and along that river and the lakes to the water communication between Lake Huron and Lake Superior the line was definitively agreed on by the commissioners of the two Governments under the sixth article of the treaty of Ghent; but between this last-mentioned point and the Lake of the Woods the commissioners acting under the seventh article of that treaty found several matters of disagreement, and therefore made no joint report to their respective Governments. The first of these was Sugar Island, or St. Georges Island, lying in St. Marys River, or the water communication between Lakes Huron and Superior. By the present treaty this island is embraced in the territories of the United States. Both from soil and position it is regarded as of much value.

Another matter of difference was the manner of extending the line from the point at which the commissioners arrived, north of Isle Royale, in Lake

Superior to the Lake of the Woods. The British commissioner insisted on proceeding to Fond du Lac, at the southwest angle of the lake, and thence by the river St. Louis to the Rainy Lake. The American commissioner supposed the true course to be to proceed by way of the Dog River. Attempts were made to compromise this difference, but without success. The details of these proceedings are found at length in the printed separate reports of the commissioners.

From the imperfect knowledge of this remote country at the date of the treaty of peace, some of the descriptions in that treaty do not harmonize with its natural features as now ascertained. "Long Lake" is nowhere to be found under that name. There is reason for supposing, however, that the sheet of water intended by that name is the estuary at the mouth of Pigeon River. The present treaty therefore adopts that estuary and river, and afterwards pursues the usual route across the height of land by the various portages and small lakes till the line reaches Rainy Lake, from which the commissioners agreed on the extension of it to its termination in the northwest angle of the Lake of the Woods. The region of country on and near the shore of the lake between Pigeon River on the north and Fond du Lac and the river St. Louis on the south and west, considered valuable as a mineral region, is thus included within the United States. It embraces a territory of 4,000,000 acres northward of the claim set up by the British commissioner under the treaty of Ghent. From the height of land at the head of Pigeon River westerly to the Rainy Lake the country is understood to be of little value, being described by surveyors and marked on the map as a region of rock and water.

From the northwest angle of the Lake of the Woods, which is found to be in latitude  $45^{\circ} 23' 55''$  north, existing treaties require the line to be run due south to its intersection with the forty-ninth parallel, and thence along that parallel to the Rocky Mountains.

After sundry informal communications with the British minister upon the subject of the claims of the two countries to territory west of the Rocky Mountains, so little probability was found to exist of coming to any agreement on that subject at present that it was not thought expedient to make it one of the subjects of formal negotiation to be entered upon between this Government and the British minister as part of his duties under his special mission.

By the treaty of 1783 the line of division along the rivers and lakes from the place where the forty-fifth parallel of north latitude strikes the St. Lawrence to the outlet of Lake Superior is invariably to be drawn through the middle of such waters, and not through the middle of their main channels. Such a line, if extended according to the literal terms of the treaty, would, it is obvious, occasionally intersect islands. The manner in which the commissioners of the two Governments dealt with this difficult subject may be seen in their reports. But where the line thus following the middle of the river or watercourse did not meet with islands, yet it was liable sometimes to leave the only practicable navigable channel altogether on one side. The treaty made no provision for the common use of the waters by the citizens and subjects of both countries.

It has happened therefore, in a few instances that the use of the river in particular places would be greatly diminished to one party or the other if in fact there was not a choice in the use of the channels and passages.

Thus at the Long Sault, in the St. Lawrence—a dangerous passage, practicable only for boats—the only safe run is between the Long Sault Islands and Barnharts Island (all which belong to the United States) on one side and the American shore on the other. On the other hand, by far the best passage for vessels of any depth of water from Lake Erie into the Detroit River is between Bois Blanc, a British Island, and the Canadian shore. So again, there are several channels or passages, of different degrees or facility and usefulness, between the several islands in the river St. Clair at or near its entry into the lake of that name. In these three cases the treaty provides that all the several passages and channels shall be free and open to the use of the citizens and subjects of both parties . . . .\*

JOHN TYLER.

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\*The remainder of the message is not relevant to the present subject.



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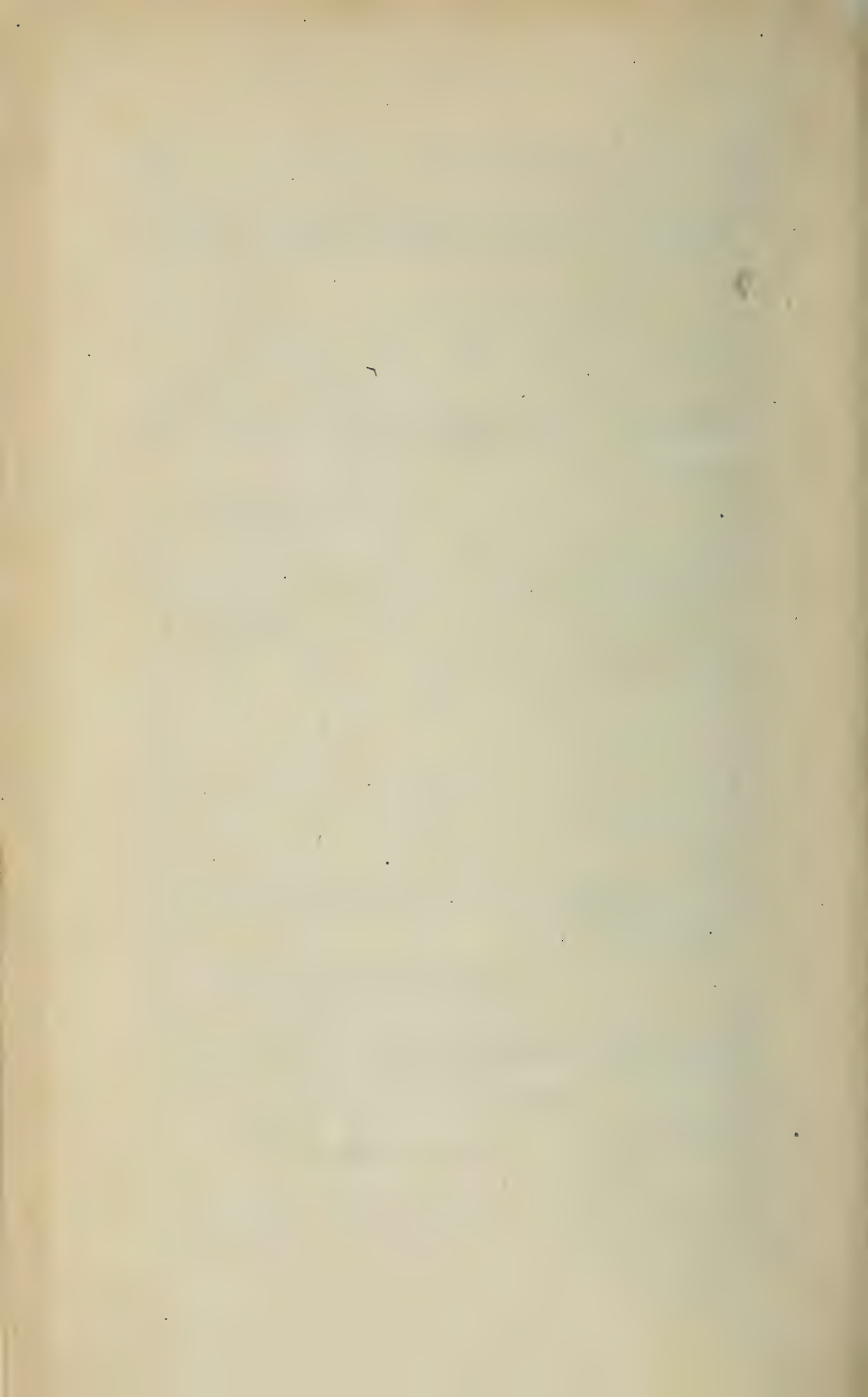
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River Power Company's Plant at Massena, N.Y.











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